

MARINE RECORD

ESTABLISHED 1878.

VOL. XXII, No. 29.

CLEVELAND---JULY 20, 1899---CHICAGO.

\$2.00 Per Year. 5c. Single Copy.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

PRESIDENT.	
FRANK J. FIRTH,	Philadelphia.
1ST VICE-PRESIDENT.	
CAPT. THOS. WILSON,	Cleveland.
SECRETARY.	
CHARLES H. KEEP,	Buffalo.
TREASURER.	
GEORGE P. MCKAY,	Cleveland.
COUNSEL.	
HARVEY D. GOULDER,	Cleveland.
EXECUTIVE AND FINANCE COMMITTEE.	
JAMES CORRIGAN, Chairman,	Cleveland.
COMMITTEE ON LEGISLATION.	
GIBSON L. DOUGLAS, Chairman,	Buffalo.
COMMITTEE ON AIDS TO NAVIGATION.	
GEORGE P. MCKAY, Chairman,	Cleveland.

MAINTAIN LAKE LEVELS.

FRANK J. FIRTH, PRESIDENT LAKE CARRIERS' ASSOCIATION, SUGGESTS THE APPOINTMENT OF AN INTERNATIONAL COMMISSION TO CONSIDER THE QUESTION OF LAKE LEVELS. PHILADELPHIA, July 15, 1899.

THE MARINE RECORD:

During the many years in which the important questions of lake levels has received much intelligent consideration there has been a practically universal assent to the conclusion that the governing factors are "rainfall and evaporation." It is also well understood that these factors cause wide variations in levels between seasons and between different periods in the same season.

Of late years new factors have called for investigation and careful consideration. The construction of the American and Canadian locks at the "Soo" with no remedial works in the river to offset their draft upon Lake Superior; the "Soo" power canals upon the Canadian and American sides of the river; the power canals at Niagara Falls; and the Chicago drainage canal; all, separately and unitedly, present questions of grave, national and international importance in connection with the economical navigation of the Great Lakes, their connecting waterways and harbors. An able United States engineer estimated that the Chicago drainage canal alone would cause a reduction of seven inches in the Lake Erie levels. In almost all of the communications upon the subject it is assumed that small lowerings of levels caused by such works as the Chicago drainage canal, for example, are unimportant because the changes in level due to natural causes are so much greater. This may be a serious mistake. The important lake levels to the modern navigator are the lowest levels resulting from natural causes. Vessels are so loaded as to utilize every inch of available depth of water. Lowering of levels from natural causes will often hold a fleet of deeply laden vessels at the head of a strait or the entrance of a harbor, until the conditions change and there is a sufficient depth of water to enable the vessel to proceed with safety. If artificial constructions, such as drainage and power canals, are to still further and permanently reduce the lowest natural levels it becomes a very serious matter, and one that may involve hundreds of thousands of dollars added each season to the cost of carrying the ore, grain or other staple products of our country.

It is a mistake to assert, as is done in the communication on lake levels in your issue of July 13th, that comparatively small reductions in lake levels are "of no practical importance whatever in comparison with the uncertainty and

variability and the great importance of the rainfall and evaporation."

The latest of the proposed projects affecting lake levels appears to be an open cut canal from Lake St. Clair to Lake Erie.

It is time for those interested in maintaining, and, if possible, increasing the lake levels, to advocate and obtain the appointment of an international commission of able United States and Canadian engineers to carefully investigate and consider this entire question, recommending to their respective governments a permanent policy that may protect the interests of lake navigators without needlessly restricting important private enterprises desiring to utilize for power or other useful purposes the waters of the Great Lakes. It is a question affecting all the producers and consumers of grain, ore, lumber, coal and other staples depending upon the Great Lakes for their cheap movement to the home and foreign markets. FRANK J. FIRTH.

SHIPBUILDING IN GERMANY.

The German shipbuilding industry, owing to the numerous new steamers ordered, has been profitably employed during the past year, and the statements of the principal companies recently published, with one exception, show favorable results.

According to the report of Consul W. K. Anderson, at Hanover, the Vulcan Works at Bremen, which for a long term of years has made a uniformly good showing, was able to pay its stockholders a 12 per cent. dividend, instead of 10 per cent. as in 1897.

The Howaldts Ship Building Co., at Kiel, paid 7 per cent. dividend, the same as in the previous year, carrying besides a very considerable sum to its reserve fund.

The great Neptune Ship Building and Machine Manufacturing Co., at Rostock, which has never heretofore been able to pay a dividend, now announces that it will pay its shareholders 4 per cent.

On the other hand, the Seebeck Ship Building and Dry Dock Co., at Geestemunde-Bremerhaven, after years of prosperity, makes quite an unfavorable showing, its balance on the loss side being the considerable sum of 322,224 marks (\$76,689). The special reasons for the loss are not published. In 1897, as well as in 1896, it paid dividends of 7½ per cent. to its stockholders.

SAILOR VERSUS ENGINEER.

In the past, seamanship, was the chief thing. In the present, seamanship, in the old and strict sense of the word, holds a very subsidiary place. When the winds and the waves and the tides could not be forced, and had to be humored, the mystery of dealing with these elements was a worthy study for a whole life. But today we force the winds, the waves, and the tides, and humour them very little. The seaman is in process of becoming the engineer; every year he becomes more and more the engineer, and it is certain that a much briefer experience of the sea than was formerly needed is now required towards the formation of the good officer.

LAST ATLANTIC SIDE WHEELER.

The last paddle-wheel Atlantic steamer was the Cunard vessel Scotia, which was launched in 1862. She was 379 feet in length, 47-8 feet beam, was of 3,871 tons, and attained a speed of 13½ knots. Owing to the introduction of the screw propeller the vessel and her sister ship, the Persia, at one time the swiftest vessel on the service, became obsolete, and both were sold, the Persia being converted into a sailing vessel in 1868, and the Scotia nearly ten years later into a twin-screw steamer for laying telegraph cables.

RAINFALL AND OUTFLOW OF THE GREAT LAKES.

In answer to a request from Mr. C. A. Keep, secretary of the Lake Carriers' Association, a report of rainfall and outflow of the Great Lakes was made by Prof. C. Abbe, Weather Bureau, Department of Agriculture. The important result therein demonstrated is one that has in fact been long suspected, namely, that we know too little about the evaporation and the drainage from the watershed of the lake region to justify any minute conclusions. The "drainage or run off" is a matter that should be determined by hydraulic engineers. In order that the Weather Bureau may respond satisfactorily to the public demands for information on evaporation, Willis L. Moore, Chief of the Weather Bureau, says that it will be necessary to establish a large number of evaporimeters in the lake region in such positions as to give the evaporation from the water surface of the lake as distinguished from the measurements in thermometer shelters usually made by meteorologists.

Mr. F. H. Denison, of the Canadian meteorological service, having established a continuous record, on a large scale, of the oscillations on Lake Ontario, has shown that minute temporary waves have such a connection with atmospheric conditions that they may, perhaps, be used to predict distant thunderstorms. These oscillations are of much interest from several points of view, and observations should be maintained at Weather Bureau stations in connection with the evaporimeters before mentioned, and in addition to any similar stations that may be maintained by the Chief of Engineers, United States Army, or by the Director of the United States Geological Survey.

THE WELLAND CANAL.

A marked decline has taken place in the tonnage through the Welland canal since 1893, and strong pleas are being made for harbor improvements at Port Colborne, Ont., its Lake Erie terminal, as it is urged that the lack of harbor facilities at that port is largely responsible for the loss in traffic.

In 1893, 1,294,823 tons of grain and merchandise passed through the canal east and west bound. Since then there has been a gradual falling off in shipments, although grain traffic increases on the lakes every year. The grain that passed down the Welland canal in 1893 was about 16 per cent. of the grain receipts at Buffalo; in 1898 it was about 9 per cent. or a loss of 43 per cent. as compared with Buffalo.

The harbor at Port Colborne is in the same condition that it was 17 years ago, when the Welland canal was opened. Lake vessels now require such a depth of water that none of the larger class attempt to enter Port Colborne. While the Canadian government admits the necessity of a better harbor, it seems unwilling to take immediate steps for providing one. It is urged that this will prove of only temporary value unless the canal is enlarged as well, and if the canal is enlarged there would be heavy expenditures required on the St. Lawrence route.

The Welland canal is 26¾ miles long, and connects Lake Erie and Lake Ontario by a cut through the narrow Niagara peninsula. There is a fall of 326¾ feet in the 27 miles, necessitating 26 locks. These locks are 270 feet in length, 45 feet in width by 14 feet deep, and when the canal was opened it was supposed that provision had been made for the largest lake craft. But the new Sault Ste. Marie canal lock has permitted the construction of such large cargo boats that most of the vessels which could go through the Welland canal have been driven out of the carrying trade.

An order has been issued by the President extending privileges and protection of the American flag to the shipping of Porto Rico and the Philippines. All ships owned by residents of these Islands at the time of the exchange of ratification of treaties are included in the order.



BUFFALO.

Special Correspondence to The Marine Record.

The Donnelly Contracting Co. has begun on the Erie basin work. The Donnelly is one of the best firms of contractors on the lakes.

The master of the Canadian passenger steamer Hero, whose vessel was released from a shoal in Alexandria Bay this week, claims that the gas buoy had been shifted to make it easier to fill.

Capt. Noonan, of Kingston, Ont., will lay the keel of a new steamer this winter for the Rideau route, to be ready by the opening of navigation next spring. Capt. Noonan has now the steamer James Swift.

Capt. Smith, of the schooner Grandy, reported at Buffalo that seaman Gordon Seymour walked overboard while his vessel was going through the "Soo" river on the way down. Seymour shipped at Buffalo, but it is believed his home is elsewhere, as there are letters addressed to him from different places.

Messrs. Boynton and Thompson, Port Huron, who recently disposed of their towing and wrecking plant to the Great Lakes Towing Co., sold their steamer Westford and consorts Monitor, Manitowoc and Atmosphere to J. J. Boland of this city. The price has not been given out. Capt. Boland will put the fleet in the bulk cargo trade.

The Collector of Customs here placed a fine of \$200 on the steamer Alexander McDougall last Saturday. The steamer is charged with violating rule 1 of the St. Mary's river regulations, which regulates the extreme speed of steamers in the river. Complaint was made by the masters of other steamers and the matter forwarded to Buffalo for action.

Drake & Maytham, who libeled six grain cargoes last fall on demurrage claims have received the amount of their claims on the Germanic and Philip Minch from the shippers, Hancock & Co., of Philadelphia, without going to the expense and trouble of a law suit. They expect settlement on the others also. The firm are to be commended for their well advised energy in settling up these claims for demurrage.

If any one should ask about Capt. L. C. Cole, of Daysville, N. Y., I can tell them that he has "swallowed the anchor" and gone farming. Instead of plowing the lake, he is now plowing the land. Quits work when the sun goes down and on rainy and holy days, manages to eke out three square meals each day and still keep a "shot in the locker" for production when occasion demands. Capt. Cole has been a RECORD subscriber for over seventeen years, and will still keep posted on lake marine matters.

In the charge against Capt. McIntyre for Sabbath profanation, brought at Niagara, Ont., judgment was reserved. The defence put in a number of pleas, but it is held that the magistrate has no jurisdiction. The remedy, if any, is a civil one by action only. The Provincial legislature can make a crime of it or amend the Lord's Day Act, which was in force at Confederation. It is claimed that the local legislature has no jurisdiction in respect to the Niagara river, as it is an international highway, and that the Dominion Parliament alone has jurisdiction. The Niagara Navigation Company has a Dominion charter, and when a corporation is not liable its servant is not liable. J. J. Foy, Q. C., Toronto, appeared for defendants, and M. Brennan, St. Catharines, for plaintiffs.

The international 'Longshoremen's convention adjourned last Friday, after electing the following officers: President, Daniel J. Keefe, Chicago; first vice-president, John Walsh, Cleveland; second vice-president, Henry Daragan, Duluth; third vice-president, James Dunne, Duluth; secretary and treasurer, H. C. Barter, Detroit; executive committee, James F. Carberry, of Buffalo; H. W. Brazee of Ashtabula, O.; Peter Allen of Newport News, Va.; William Hardner, of Hamilton, Ont.; Fred Hutter of Sandusky, O. Duluth was selected as the convention city of 1900. President Keefe, John Walsh, of Cleveland, and P. J. McMahon of Buffalo, were elected representatives of the Association at a meeting of the Lake Carriers' Association, to be held in Detroit next winter.

Immigration Inspector De Barry has ordered back to Canada a young Canadian woman who went to Buffalo to act as housekeeper. The Buffalo Enquirer thinks De Barry is a bully and a fool, and advises the Washington people to suppress him. The Mail and Empire, Toronto says: It is very clear that he is not inspired with the spirit of the Anglo-Saxon entente, and that he is not observing the bargain under which our Alien Labor law is suspended. It should in all fairness be added that at a recent inquiry it was found that the action taken by Mr. De Barry in several instances were all within the pale of the law, in one or two other instances he did not come out quite so well. The point to determine is the meaning of the word labor, is a ship's cook, for instance, a laborer?

CHICAGO.

Special Correspondence to The Marine Record.

Since the completion of the dredging at Michigan City, the harbor is navigable for vessels drawing 16 feet.

W. I. Babcock, manager of the Chicago Ship Building Co. is preparing for an extended trip east in the interest of ship building experiences.

An inspection of the Calumet river has revealed numerous bars between Ninety-second and One Hundred and Sixth street, which will have to be removed.

On account of failing health Capt. George Larson has resigned as keeper of Racine light-house, to take effect August 1. He has been in the service of the government since 1875.

The steamer E. W. Oglebay, which stranded on Round Island in the Straits of Mackinac, last week, reached South Chicago Saturday night and was placed in dry dock. Capt. C. M. Davis, of Milwaukee, and Robert Logan, of Cleveland, made a survey of the steamer's damage.

Sixteen hundred members of the boiler and shipbuilders' union struck here on Monday. They ask for an eight hour day, 30 cents per hour, and a half holiday on Saturdays during the summer. Two hundred and fifty ore shovelers employed by the Chicago Furnace Co. also struck for more pay.

A new 250-foot side-wheeler, having a speed of 20 miles an hour, is to be built by the Chicago, Saugatuck & Douglas Transportation Co. for the passenger service between Chicago and Saugatuck next season. Capt. John Campbell, of the steamer Saugatuck, will have command of the new vessel.

The steamer P. H. Birkhead was released from Racine reef Friday afternoon by the Chicago tug Welcome and Racine tug S. O. Dixon. Her captain says he passed on the outside of the Pintsch light crib, believing that by so doing he would clear the rocks, but went on heavy amidships and aft. Unless something is done, Racine will gain the reputation of being an unsafe port to charter to.

The list of tug properties which the American Towing Co. is prepared to purchase includes the tug lines at Chicago, Milwaukee, Detroit, Cleveland, Buffalo, Port Huron, Sault Ste. Marie and the lines at Duluth and West Superior. The tug lines at the smaller Ohio ports are already practically under the control of Cleveland companies, whose property is to be included under the present deal.

General Passenger Agent R. C. Davis, of the Goodrich Line, is one of the busiest men that ever held the position. He has a fleet of nine steamers to look after, and is confronted with the greatest boom in excursion business since the palmy days of the world's fair. Although a young man, Mr. Davis is regarded as one of marvelous energy, it is said that his popularity has had much to do with the liberal patronage of this line.

The new steel tow barge Manila, discharged a cargo of iron ore at the Illinois Steel Co.'s furnaces on the Calumet, on Tuesday, that exceeds all previous cargo records of lake craft. On a draft of 18 feet fore and aft, the Manila loaded 7,300 gross tons of ore. To this may be added 1 per cent. for moisture in the ore, making the total weight 7,373 gross tons, or 8,110 net tons. The largest previous cargo was carried by the tow barge Fritz, of the Bessemer fleet. This was 7,030 gross, or 7,952 net tons of ore. The Manila's cargo exceeds this by 158 net tons. So the Minnesota Steamship Co., of Cleveland, can carry the broom for large cargoes on steel tow barges, or anything else.

After considering the question four days the presidents of all the big railways between Chicago and the Atlantic seaboard have agreed that on and after Aug. 1 Chicago shippers must pay from 3 to 5 cents more on the hundred pounds for transportation of their grain to the Eastern markets. More than this, the chief executive officers of these roads say that with the new tariff there will be no secret deals with big consigners, that the man with a carload of grain must be given the same rate as he who can promise a trainload and those rates must be the ones printed and hung up for public inspection. The new charge on wheat, oats and flour from Chicago to New York will be 17 cents per 100 pounds, compared to the present rate of 11½ cents. On corn the advance will be from 10½ to 15 cents. For export shipments from Chicago via New York the advance on corn will be from 10½ to 11 cents and on oats from 10½ to 13 cents. For wheat shipments to the European markets the rate will be 17 cents per 100 pounds, the same as now. On provisions, both for export and domestic, the rate will be 25 cents, an increase of five cents in the export rates. Between now and Aug. 1, when the new rates will go into effect, the local agents of the east bound roads have been instructed to clean up all cut-rate contracts.

Several days ago Capt. D. L. Ramage and A. L. Anderson, of Sturgeon Bay, forwarded to Collector of Customs Roberts at Milwaukee a sworn complaint that the captain of the tug A. J. Wright is licensed as a second class pilot only, and therefore cannot assume command of vessels of over 100 tons measurement, whereas the Wright measures 240 tons; that on June 5 last, when the Wright made a trip to Chicago, the owners wired Capt. Ramage to take her in and out of that port, as Capt. Isabel was unqualified by his license; also that one trip was made to Chicago with two unqualified pilots, the license of Mate Beaubo limiting him to steam vessels of not over thirty tons measurement. This complaint Collector Roberts submitted to Capt. Davis of the revenue cutter Mor-

rill for investigation. Thus when the Wright reached Milwaukee with a stone-laden scow, officers of the revenue cutter boarded her at the breakwater, and after having satisfied themselves of the truth of the complaint, caused her to be taken into the harbor. Capt. Davis states that not alone were the two pilots improperly licensed, but the chief engineer of the tug could show nothing whatever in the shape of a license. When the facts were laid before Collector Roberts, he at once imposed fines aggregating \$800 against the owners of the Wright, Messrs. Leatham & Smith, of Sturgeon Bay, Wis. Of the fines imposed, a levy of \$500 is made upon the tug and the remaining \$300 cover the unlicensed officers, viz. \$100 each. The case is one of such an aggravated nature that Collector Roberts says the Treasury Department can hardly be prevailed upon to remit any portion of the penalties. Pending the payment of the fines and the engagement of properly licensed officers to handle the Wright, she will be held in custody.

DETROIT.

Special Correspondence to The Marine Record.

Postage on letters from Canada to the United States has been reduced to 2 cents.

The Oades Shipyard Co. is making repairs upon the yacht Oneida and overhauling M. M. Sullivan's dredge Tipperary Boy.

It is now stated that the wrecked steamer Harlem was not included in the transfer of the Thompson fleet to the Great Lakes Towing Co.

The Milwaukee Tug Co. has sold out to the combine on a valuation of about \$122,000. The Singer line at Duluth is placed at \$150,000.

The Riverside Iron Works, S. F. Hodge & Co., has considerable marine repair work on hand. The machinery of the J. H. Pauly is now being overhauled.

The total receipts of wheat at the head of Lake Superior since the beginning of the crop year are 75,000,000 bushels, against 42,991,023 last year, an increase of nearly 50 per cent.

The passenger and excursion business was never so brisk as it is now and a half a dozen more boats could earn money if they were to be had. Lake and river excursions are becoming more popular each season.

The steamer Preston, with cargo capacity of about 1,000 tons, is chartered for the season at a lump sum of \$9,200, or \$1,500 per month for eight months. All expenses, even to the insurance, are paid by the charterer.

Our boss skipper is Capt. John Robertson, of the river steamer Darius Cole. With over half a century of active experience he is still to the fore, hearty, capable and well liked by all with whom he comes into contact.

Masters and pilots of steamers passing through the Straits of Mackinac, when asked concerning the movements of Capt. James Reid in connection with the Cayuga, uniformly convey the information that thus far he has not resumed operations on the sunken craft.

The new steel steamer Mae, built at Toledo and bound for the coast, stranded at Kingston on her way down. She was eventually released and proceeded after lightening a portion of her cargo. She can't pass all the St. Lawrence system of canals and will be taken through the rapids.

A Cleveland coal shipper was here this week after tonnage. He said, one year ago the rate from Ohio ports to Milwaukee was 20 cents. It opened this year at 30 cents, and prospects were considered bright. Then came 40, 50 and 60 cents, the present rate, even 70 cents having been offered, it is said, in some instances.

District Attorney Gordon has begun condemnation proceedings in the United States District Court for the acquisition of certain lands in Mackinaw City to be added to the present lighthouse site, and Judge Swan has appointed Frank Shepherd, James F. Maloney and William N. Cross, all of Cheboygan, to assess the damages.

The steamer Algolah, which was the original car ferry between St. Ignace and Mackinaw City, came down from the Straits, and is at the Detroit dry dock to have a new wheel keyed on. Since the construction of the big ice crushers, St. Ignace and Sainte Marie, the Algolah has been operated in the excursion business at the Straits by Capt. L. R. Boynton.

The large steel tow barge, John Smeaton, built at West Superior, is now loading her first cargo, which will probably be the largest ever carried in one bottom on the lakes. This is the way that cargo records are made and gained daily. It is now reported that four large steel vessels will be on the stocks at West Superior this winter and be completed ready for early delivery in the spring of 1900.

The body of a man was found on the beach three miles west of Colchester Point on Saturday morning. It was badly decomposed and beyond recognition. On the body was found a card bearing the name "Thomas Odea, 83 Chicag." and showing him to be a member of the Buffalo Grain Shovelers' Association and the International Longshoremen's Association. The man was about forty-five years old and nearly six feet in height, and had red hair.

Assistant Secretary of the Treasury Spaulding has remitted the penalty of \$3,200 imposed on the Canadian steamer Comfort for violation of the law forbidding the carriage of coastwise passengers to \$35. The vessel carried

a Fourth of July party from Marine City, Mich., to another point in the United States via a Canadian port. The captain said he did not think he was violating any law inasmuch as he touched at a point in Canada en route.

An almost incredible shipment left here a day or two ago on the steamer City of Toledo to be re-shipped from Montreal where the consignment will be loaded to an Allan line steamer for delivery at Douglas, Isle of Man. The shipment consisted of several tramway trucks to be used on a new service just started in that distant little island. The Wolverine State production may tote along some of those interesting tailless felines for which that island is noted.

The Manhattan and Delaware had a slight conflict regarding the "Rule of the Road" in the St. Clair canal on Tuesday. The Delaware got the worst of it and required assistance. The old argument of the RECORD's that there should be an up and down-bound canal is once more brought forward in this case and there is no reason why another cut should not be made at this point, as the present small and shoal canal is not large enough to pass the entire lower lake tonnage in the busy portion of the season. By the way, this would be the best place to collect statistics of vessel passages, tonnage, etc.

L. C. Waldo, manager of the Roby Transportation Co., which operates some of the largest freighters on the lakes, was asked if his boats were taking any coal to Duluth. "Very little," he said. "Rates will have to advance still more. 'Twouldn't pay to stop to load it. Too much money in grain and ore. Possibly if the rate gets up to 75 cents or thereabouts, we might be induced to take up an occasional load. But for the present, uh, uh! We are satisfied as things are now." Capt. Ed. Peck, president of the Vulcan Transportation Co. said: "They can hustle for tonnage as much as they want to. They'll get none from me. They had us in the hole last year and they put the screws on. I hope rates will go up to \$2. I won't say that I won't carry coal for less, but I'd like to see them get a dose of their own medicine. I sent up two boats last year with coal, and they laid at Portage for 19 days before they got an opportunity to discharge their cargoes. Demurrage? Naw. It's all right for the Lake Carriers' Association to talk about demurrage, but their demands don't amount to a tinker's dam." Other opinions were of similar import. "The coal men made an effort to break the 20-cent rate last year," said Thomas Adams. It looked as if they wanted us to carry the coal for nothing and pay them something for the privilege."

CLEVELAND.

Special Correspondence to The Marine Record.

The harbor-master is figuring on the purchase of a steam launch to use in patrolling the river. This facility ought to have been established years ago.

Capt. W. J. Hunt has been transferred as master of steamer J. B. Neilson in lieu of Capt. Harvey Gunderson, who takes charge of one of the larger Bessemer boats.

Capt. Ben Tripp will pilot the yacht Manitou on a month's cruise on Lake Superior. Mr. Louis Cowles, her owner, has invited a party of friends to enjoy the trip with him.

Work on the schooner Sophia Minch, ashore near Ashtabula, is being carried on under the superintendence of Capt. Gerlach, manager of the Minch fleet, and she will likely be dry docked in a few days.

La Salle & Co., Duluth, report that August is usually the duller month for grain shipments of the season. Freight steady at 2 3/4 cents to Lake Erie and 2 1/2 cents to Midland. There has been no September charters made at 4 cents as reported.

Several other bodies from the foundered steamer Olwill have been recovered and identified this week. The late owners of the Olwill have had tugs constantly cruising in the locality in an effort to sight and recover the bodies of those who were lost.

Opposition, or competition, is still being felt by the large tug companies here. The independent line brought in a new tug this week from Detroit named the Delta, and she steams fast enough as well as being powerful enough to catch a tow when she wants it.

The Plain Dealer marine man in reporting the list of arrivals and clearances insists on naming side-wheelers and twin-screw boats as steamers, and all other vessels using steam, as propellers. I suppose, though, that they are all being propelled one way or another.

The officers of the Detroit & Cleveland Steam Navigation Co. say that the street car strike is materially affecting its excursion business. Since the street car men took another notion to go out the crowds attending the moonlight lake rides and other excursions have decreased.

An official inquiry regarding the foundering of the wooden steamer Margaret Olwill, has been held by the local inspectors of steamboats, and their report submitted to Washington. Messrs. De Wolf and McGrath, the local inspectors of the U. S. Steamboat Inspection Service at this port are strict, skilled and impartial in all the duties of their office.

The large, steel cargo boat Coralia, Capt. Cummings, is making record time of it. Two cargoes from Escanaba in one week is somewhat remarkable. Capt. Cummings must have a good boat, also a pusher of an engineer and a deck watch second to none. Of course, he has the best sort of dispatch, just as all the other fellows have these times.

Ashtabula is credited with more ore cargoes Tuesday than the total receipts at Cleveland, Fairport, Conneaut and Lorain. If Ashtabula continues to get the bulk of the ore there is no doubt about her retaining the title of the largest ore receiving port in the world. The receipts Tuesday: Ashtabula 14, Cleveland 6, Fairport and Lorain three each, and Conneaut one.

The Canadian harbor works items which were presented with the other estimates for the current fiscal year are: \$150,000 is to be expended in Port Colborne harbor improvements and \$300,000 at Montreal; Rondeau harbor, dredging bar at entrance and basin and to complete repairs to piers, \$10,500; Point Pelee Island wharf, \$5,000; Sault Ste. Marie, dredging at lower entrance channel to canal, \$20,000.

Mr. Walter Miller, consulting engineer, marine and mechanical, also surveyor for new and repair work on vessels, etc., agent for the Bethlehem Iron Co.—steel forgings—Penn Steel Casting & Machine Co., and the Balld Anchor Co., stockless anchors, has removed to more commodious offices at 406-407 Perry-Payne building. Mr. Miller takes this occasion to thank his many patrons for their past favors and solicits their further orders at his new address.

Capt. Murch, who superintended the building of the cargo fleet of the Northern line steamers, built the ferry steamers Duluth and Superior now in service on the Euclid Beach route and who is one of the most experienced shipmasters on the lakes, has been appointed superintendent of the Northern line docks at this port. Capt. Murch is here the right man in the right place and his duties as well as authority, will no doubt, be greatly extended in the future.

The managers of the Consolidated Tug Company have closed several deals this week and taken over the whole property of some of the tug lines. It is likely that by the end of the month all the tug companies on the lakes will be under the one management. Capt. James Davidson, W. A. Collier and T. F. Newman are members of the valuation and purchasing committee. The two latter will also likely be the officers of the consolidation when it is placed on a working basis.

Silas H. Hunter, a well known marine engineer, had a three column yarn in last Sunday's Leader. The story is supposed to be written on the steamer William Chisholm by "Si" to his father in Erie, Pa., and is full of funniness. Silas is a good engineer; at least, I've been told so; his father is a sailor from the ground up, but where the scribbling propensity springs from I have not yet learned. However, there is a young lady—the captain's daughter—as a central figure in the cuffer.

Ashtabula and Erie ore shovelers are on strike this week for an increase of pay. Hard ore, and untrimmed at that, they consider worth a raise of a couple of cents per ton to discharge. It takes harder work, and more of it, to get skin when ore is left untrimmed and piled up in the hatchways. The strike fever is prevalent anyway, and most everyone feels like striking, if not for one thing, then another. A prominent vessel owner asked his lawyer if he wouldn't accompany him on a strike this week. The idea is to let's all strike.

The Brown Hoisting & Conveying Machine Co., which builds specially designed cranes for shipyards, has recently added to its orders in this line a contract from Vickers' Sons & Maxim, of England, for four balanced cantilevers of the shipbuilding kind. Two of the cranes will be mounted on the recently patented Brown steel truss, while the remaining two will be placed on the ground. The Brown Company has also received from the Austrian government a contract for a shipbuilding crane to be erected at the government yards at Trieste, Austria.

There was a little strike this week of the ore handlers on the Erie dock. The rule is for the first boat in the river to take precedence at the discharging berth and the men got mixed about the arrival of two vessels, one of which there was more money in than the other. Mr. Coulby, manager of the marine department for Pickands, Mather & Co., proprietors of the dock, had his superintendent explain the situation to the ore handlers, and, when the atmosphere was thus cleared they returned to work better satisfied than ever. Mr. Coulby is to be congratulated for his reasonable method of treating labor and thus avoiding long and bitter drawn out disputes between employer and employee.

Capt. James Corrigan has purchased, through Capt. W. C. Richardson, a fleet of four wooden vessels formerly owned in Detroit. The steamers Iron Age, Duke, Chief and consort Cliff are all about 1,100-ton boats, built in 1880 and 81, and all are on their first letter with a valuation of about \$170,000. Capt. James Millen, as manager of the Detroit Transportation Co., kept this fleet of boats in excellent order, giving them such periodical repairs and new work as to keep them in the list of first-class tonnage, though, of course their small size and age is against them. This is an evidence of how busy the lake shipyards are and the difficulty experienced in getting metal, as otherwise Capt. Corrigan would no doubt have placed orders for a couple of 5,000-ton steel built vessels. The transfer gives this port quite an additional little fleet and they have plenty of work for the season. Capt. Corrigan also purchased two other wooden tow barges.

Visiting the offices of the local inspectors of steamboats this week, I asked about the recent editorial in the MARINE RECORD, treating on the "Great Lakes Shipwreck and Humane Society," and what the officers in charge thought about it? They were loud in their praises of such an institu-

tion, and wondered why it had never been started before. A case in point. Quite a few years ago a captain of a schooner picked up about twenty passengers after their steamer had collided with another vessel. He gave every stitch of his clothes to the naked passengers, also his provisions, courtesy, etc. This man is a living witness that after expending over \$100 in actual cash, volunteering life and limb in the effort to rescue as many as possible, he has not, as yet, received a thank you, nor did any of his crew. The RECORD ought to proceed on in its good work in this direction, and have people recognized. This is what some of the vessel owners here, tell me.

FLOTSAM, JETSAM AND LAGAN.

In the Federal Court at Houghton, Mich., last week the first of four damage suits, aggregating claims of \$952,500 against the Diamond Match Co., was brought to trial. The Diamond Match Co., it is alleged, obstructed the navigation of the Ontonagon river with 50,000,000 feet of logs.

The vessel in which Columbus discovered America and attained immortality was small, but it was a leviathan, in substantiality at least, compared with the aluminum piece of marine bric-a-brac with whom Sir Thomas Lipton is coming over to discover the America cup.—The Globe, Toronto.

Mayor Gilchrist, of Alpena, Mich., has made a hobby of rearing first-class carrier pigeons. They are given trial trips as homing birds by being released from passenger steamers on the Lake Huron route. Marine men visiting Alpena take much pleasure in viewing Mr. Gilchrist's choice set of birds.

According to his sworn duty when granted a license, an engineer reported that his tug was not fit to be taken away from the dock on account of the poor condition the boiler was in. The management disagreed with him and as a result he sacrificed his position. The engineer to be loyal to his employer can't be an informer against him.

The Pennsylvania Naval Reserve was organized in 1893, and similar organizations are now found in 20 states—California, Connecticut, Florida, Illinois, Georgia, Louisiana, Maryland, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Virginia, District of Columbia, Missouri and Oregon.

The steambarge Trader was the first steambarge built to carry lumber on the lakes. She was built at Marine City by Philip Rice. The steamer Salina was the second steambarge built on the lakes. She was built by F. Lester at Marine City in 1866. She was owned when burnt by J. C. Miller, Capt. Wm. Tomlin and Engineer Hubert Manion. All of the owners were aboard when she caught fire.

The purchaser of the four-masted steamship Norseman, which ran ashore on the rocks on Marblehead Neck last March while bound from Liverpool to Boston, and was subsequently floated and temporarily repaired, is A. V. Kaiser, of Philadelphia, and the price \$17,250. The sale includes all her stores, three hundred tons of coal and four lifeboats. Mr. Kaiser, the purchaser, is a dealer in iron and steel. The vessel will be taken to Philadelphia and broken up for old metal.

It has been reported that Samuel Mather, of Cleveland, will be the president of the new Great Lakes Towing Co.; that T. F. Newman, at present general manager of the Cleveland and Buffalo Transit Co., will be the secretary and treasurer, and that W. A. Collier, manager of the Cleveland Vessel Owners' Towing Co., will be general manager. The two latter gentlemen are closely identified with the organization and are doing the greater part of the preliminary work, but who the officers are to be is not yet definitely known.

Steamboat travel on the Ottawa River is decidedly cheap at present in consequence of the rate war between the Ottawa River Navigation Company and the smaller companies. A trip to Thurso and return, a distance of 60 miles, may be made for 5 cents. The steamer Princess Louise, owned by E. A. Johnston, of L'Orignal, holds on for 25 cents for the return trip from Ottawa to Thurso, and it is apparently an endeavor to drive off this boat that the Navigation Company has reduced the rate on the steamer Victoria to five cents.

"How can I get an article in your paper?" asked a correspondent of a western journal. "It all depends on the article you want to get into our paper," replied the editor. "If the article is small in bulk, like a hair brush or a tea caddy, spread the paper out upon the floor, and placing the article in the center, wrap it up carefully folding the edges over it, and tie with a string. This will keep the article from slipping out of the paper. If, on the other hand, the article is an English bathtub or a clothes horse, you would better not try it at all."—Harper's Bazaar.

Knapp's roller steam boat or cylinder which was ashore on Lake Ontario, is now on her way to Prescott, where she will be remodeled for experimental purposes, and it is expected she will be able to make 15 miles an hour. The remodeling will consist of a shortening the craft from 110 feet to 94 feet, and placing the engine fairly in the center amidships. This will prevent the possibility of the fire being put out by the water coming in at the ends, as it does at present. The engine will be compounded, and directly connected to the cylinder by means of spur gearing, doing away with the power of gravity by which this boat is driven. On the outside skin, floats are to be placed the whole length of the ship, 4 1/2 inches deep, thus strengthening the outside shell, as well as giving a larger propelling surface.

JAMES J. HILL.

FROM DECK HAND TO RAILROAD PRESIDENT AND OWNER.

One of the most marked men in transportation circles in the United States is the grand and rugged character of J. J. Hill. Years ago he wanted to build cargo steamers 500 feet in length for the lake traffic, but he permitted himself to be over-ruled in this particular by 100 feet or so, though he might have stuck firm and insisted upon his better judgment being carried out.

We are pleased to see the following synopsis of his career in this issue of the Steam-Electric Magazine, Scranton, Pa., every word of which the RECORD is pleased to endorse, and this, too, from a more than casual observation of the indomitable pluck and perseverance exhibited by the man under present consideration.

"Steadfastness of aim and unflagging industry in the attainment of his purposes have been distinguishing marks in the life of James J. Hill. He has made himself thorough master in principle and practice, in general and in detail, of every position, from the humblest to the highest that he has ever filled. This is the secret of his success. The unsettled and unindustrious man who, on entering the duties of a position, makes up his mind that its duties are not worth knowing well, never succeeds. He is always looking for something better, but does not obtain it for the reason that he neglects the only sure means of obtaining promotion. The man who thoroughly masters all the details of duty in the humblest position to which he may be appointed, is the man certain to come to the front. Such a man never neg-

usually a man of study and reflection. Mr. Hill has ever been such a man.

As a result of life-long study, Mr. Hill knows all about railroading, from the surveying of a line, its grading, track laying, locomotive and car building, and operating, to its financing, and there is not one of his army of employees to whom he cannot tell more than the man himself knows about his own particular branch of the business.

To earnest persevering study, and the habits of life demanded by such study, Mr. Hill owes his success of to-day. He is now president and owner of the Great Northern Railway, extending from Seattle, Wash., to St. Paul, and Duluth, Minn., besides controlling other great interests.

He is one of the most democratic of men; there is no one too humble for him to speak to. In spite of advanced years, he is as indomitable in spirit as when he first started out in the world to make a way for himself. To him idle moments are still utter strangers; his continuous success in life is a monumental tribute to the genius of work and the habit of well-ordered study."

THE ERIE CANAL.

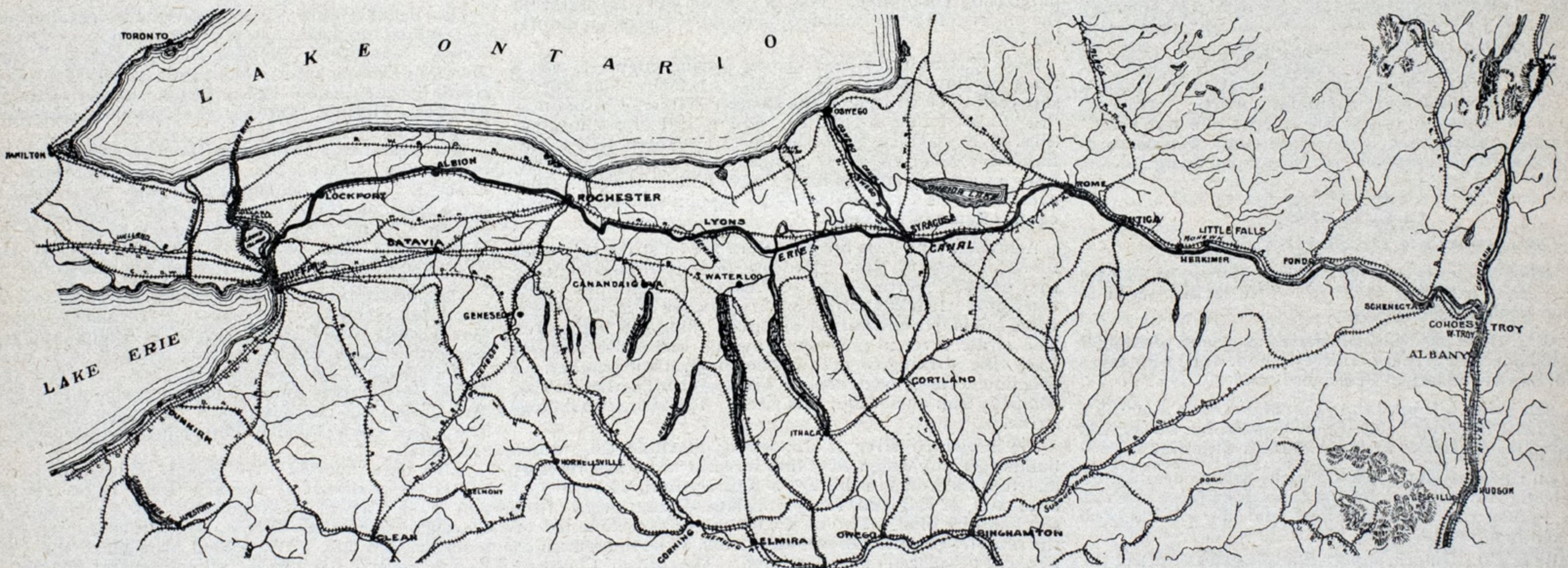
ILLUSTRATED.

The Erie canal, extending across the state of New York from Buffalo to Albany, is 352.18 miles in length. Lake Erie is 572.23 feet above the level of the Hudson at Albany.

The Oswego canal joins the Erie at Syracuse and connects it with Lake Ontario through the mouth of the Oswego river at Oswego, N. Y. The canal is 38 miles long from Syracuse to its terminus in the Oswego river, 3,200 feet from

GERMANY'S MERCHANT MARINE.

The United States Consul J. C. Monaghan writing from Chemnitz, says, it is interesting to note this Empire's eagerness to equal England as a mercantile and manufacturing state. This city, hundreds of miles inland, organized last week a branch of what is known as the national union for increasing the fleet. In the industrial development that has assumed gigantic proportions in the last forty years, the mercantile marine has not only kept pace with internal progress, but has done much to increase its fields of operation. Germany's fleet is second only to that of England. In 1875, Germany's merchant marine numbered 4,062 ships with 1,068,000 registered tons net; in 1895 she had 3,665 ships with 1,554,000 tons; in 1898, 3,693 ships and 1,555,000 tons. While the number of ships is smaller, the number of tons, compared with 1875, has increased 50 per cent. The falling off is in sailing ships. In 1875, there were 4,303 with a capacity of 878,385 tons and 299 steamers with 189,098 tons; in 1885, there were 3,607 sailing ships, with 880,345 tons and 650 steamers with 413,943 tons; in 1895, 2,622 sailing vessels with 660,856 tons and 1,043 steamers with 893,046 tons; in 1898, 2,522 sailing vessels with 585,571 tons and 1,171 steamships of 979,800 tons. In general, a steamer is thought to be able to carry three times as much as a sailing vessel of the same size. The falling off in sailing ships from 4,303 in 1875 to 2,522 in 1898 was more than made up for in the increase of steamers from 299 in 1875 to 1,171 in 1898. The regular crews numbered, in 1898, 42,428 men. The average was 5.7 men to a sailing ship and 24.3 to a



PLAN SHOWING THE ERIE CANAL FROM BUFFALO TO THE HUDSON RIVER. ALSO THE LAKE ONTARIO CONNECTION AT OSWEGO, N. Y.

lects opportunities of self-improvement. His hours may be long, his duties onerous, but he will find a few moments at least every day for reading and study. He has his favorite papers and his favorite books. He reads carefully and thoroughly, and thus lays up valuable stores of information that some time in life will stand him in good stead.

Mr. Hill began at an early age to carve out a place of his own in life. Circumstances compelled an humble beginning, but he resolved to go higher; and realizing that knowledge and study are the secrets of advancement, determined to learn all he could.

In his early days, when working as a deck hand on the Mississippi river, he found time and means to spare for books. He made himself at that time familiar with the history of the country in general, and of the Northwest in particular; and, after learning all he could of the United States, did not rest satisfied till he had mastered all the political and geographical peculiarities of foreign countries. To acquire books in early life and on scant pay, he saved, and has ever since saved. Even when his wages were but \$10 a week, he saved. Study leads to habits of thrift and economy. The truly studious man is ever thrifty, for extravagance and profligacy are incompatible with habits of study. Thrift is not in any way connected with avarice, usury, greed, or selfishness. It is, in fact, the very reverse of these objectionable qualities. Thrift means independence to secure prosperity. Thrift is under the influence of reason and forethought, and never works by chances or fits. Hence, the thrifty man is

the lake. The rise from the lake to Syracuse is 155 feet and is accomplished by 17 locks. There are also five guard locks, making 22 in all, locks and guard locks.

The boats in use on the Erie canal have a regulation length of 98 feet, 17 feet 5 inches beam, and when loaded to a draft of six feet carry about 240 tons.

ORIGIN OF SHIP TERMS.

As regards terms connected with the ship, its hull masts, decks, and rigging, they are innumerable; and, singular to remark, as the military terms are derived from the Normans, the greater number of the naval ones come from the Saxon and Dutch, such as ship, boat, boom, etc. Quarterdeck originated from the arrangement that the portion of the deck so called was about one-fourth of the whole space. Fore or forward castle received its name as being the principal part of the ship in which the fighting took place, being raised much above the level of the other part of the deck and holding a commanding position. Poop, the raised apartment of the ship, set apart for officers, both in meaning and derivation comes from the Latin. Gangway has been handed down from the days of the ancient galley of the Phœnicians, Carthaginians, and Romans, it having been a board which ran along the whole length serving as passage for the rowers to and from their seats. It was also utilized as a resting place for the mast and sail when not in use. The term now denotes place of exit or entrance from or to a vessel, generally from the shore, by means of a long plank or platform.

steamer. German writers point with pride to the fact that whereas formerly a good many, if not quite all, of the big ships were built abroad, they are now built in German shipyards, by German mechanics, with German materials, etc. All that is now needed, they say, is a powerful fighting marine. The empire's interests are in every part of the world. These must be protected. Germany will probably give attention next to building a large and powerful fleet.

THE FIRST PACIFIC STEAMER.

The first steam ship to sail the Pacific Ocean was the Hudson Bay Company's vessel Beaver, which, over 60 years ago, left the Thames on a voyage to Astoria, Oregon, the fur-trading post founded in Oregon by the ancestor of Mr. Astor, the millionaire, and immortalized by Washington Irving. She was also the first European steamer to round Cape Horn. The Beaver was only 101 feet long by 20 feet beam, and 11½ feet deep, with a tonnage of 109¾ tons. Her two engines were made by Boulton and Watt, of Birmingham, and were of 35 horse power each. The vessel carried miners during the gold fever in 1849, and after serving in various capacities, ran on a rock in Burrard Inlet, and became a wreck in 1888. An attempt was made to transport her to the World's Fair, but finally she was sold and broken up. The brass and copper fittings have been cast into souvenir medals, and the timber made into walking sticks and other mementoes.

LLOYD'S REGISTER SHIPBUILDING RETURNS.
(For the Quarter ended June 30, 1899.)

From the returns compiled by Lloyd's Register of Shipping, it appears that, excluding warships, there were 568 vessels of 1,386,367 tons gross under construction in the United Kingdom at the close of the quarter ended June 30, 1899. The particulars of the vessels in question are as follows, similar details being given for the corresponding period in 1898 for the purpose of comparison :

DESCRIPTION.	June 30, 1899.		June 30, 1898.	
	No.	Gross Tonnage	No.	Gross Tonnage
STEAM.				
Steel	482	1,372,166	507	1,311,402
Iron	58	10,619	52	8,665
Wood and composite..	1	100	3	214
Total	541	1,382,885	562	1,320,281
SAIL.				
Steel	7	1,176	2	340
Iron	20	2,306	16	1,447
Wood and composite..	27	3,482	18	1,787
Total	568	1,386,367	580	1,322,068

The present returns show very little falling off from the unprecedentedly high figures which were reported at the end of 1898. The decrease amounts to about 15,000 tons, or little more than 1 per cent. of the work then in hand.

Of the vessels under construction in the United Kingdom at the end of June, 486 of 1,089,851 tons are under the supervision of the surveyors of Lloyd's Register with a view to classification by the society. In addition, 52 vessels of 146,272 tons are building abroad with a view to classification. The total building at the present time under the supervision of Lloyd's Register is, thus, 538 vessels of 1,236,123 tons. Details of this total follow :

	No.	Gross Tonnage.
Building in the United Kingdom for home account, for sale, etc.	431	971,413
Building in the United Kingdom for foreign and colonial account.....	55	118,438
Building abroad.....	52	146,272
Total building on June 30 for classification in Lloyd's Register Book.....	538	1,236,123

OTHER DETAILS. (WARSHIPS EXCLUDED).
The following details concerning the shipbuilding work of the United Kingdom during the past three months may be added :

DURING QUARTER ENDED JUNE 30, 1899.	Steam.		Sail.	
	No.	Gross Tonnage	No.	Gross Tonnage
Vessels commenced	168	345,719	7	730
Vessels previously commenced, but on which no further progress has been made....	5	800	3	215
Vessels launched.....	185	346,009	6	933

The British warships under construction in the United Kingdom show that 18 vessels of 166,970 tons displacement are building at the Royal dockyards and 40 warships of 350,200 tons displacement are building at private yards.

For foreign account, 27 warships of 101,875 tons displacement are under construction at British shipyards, making a total of 67 vessels of 285,105 tons being built in private yards and an aggregate of 85 vessels of 452,075 tons displacement at all yards.

HEROISM IN SHIPWRECK.

In the terrible story of the sinking of the great British warship Victoria, the only gleam of brightness is the heroism displayed by members of the doomed vessel's crew.

It is always inspiring to read how brave men face death. The newspaper dispatches told us that the Victoria's sailors maintained rigid discipline up to the moment when their ship sank into the deep Mediterranean. Even after they had been ordered to save themselves they persisted in their attempt to fix the "collision mat" over the huge breach in the vessel's side. Their commander set them a noble example. When it became evident that nothing could be done to save the ship, he stood motionless and with folded arms

at his post on the bridge. A seaman ran up with a life belt and offered it to him, but the officer would not permit the sailor to sacrifice his life, and told him to seek his own safety.

Admiral Tryon's heroism recalls that of Captain Craven of the Tecumseh in our own civil war. The Tecumseh was one of the monitors that took part in Farragut's famous fight in Mobile Bay. As she entered the harbor where the enemy's fleet was waiting to receive the attack, there was an explosion under her quarter. She had struck a submarine mine.

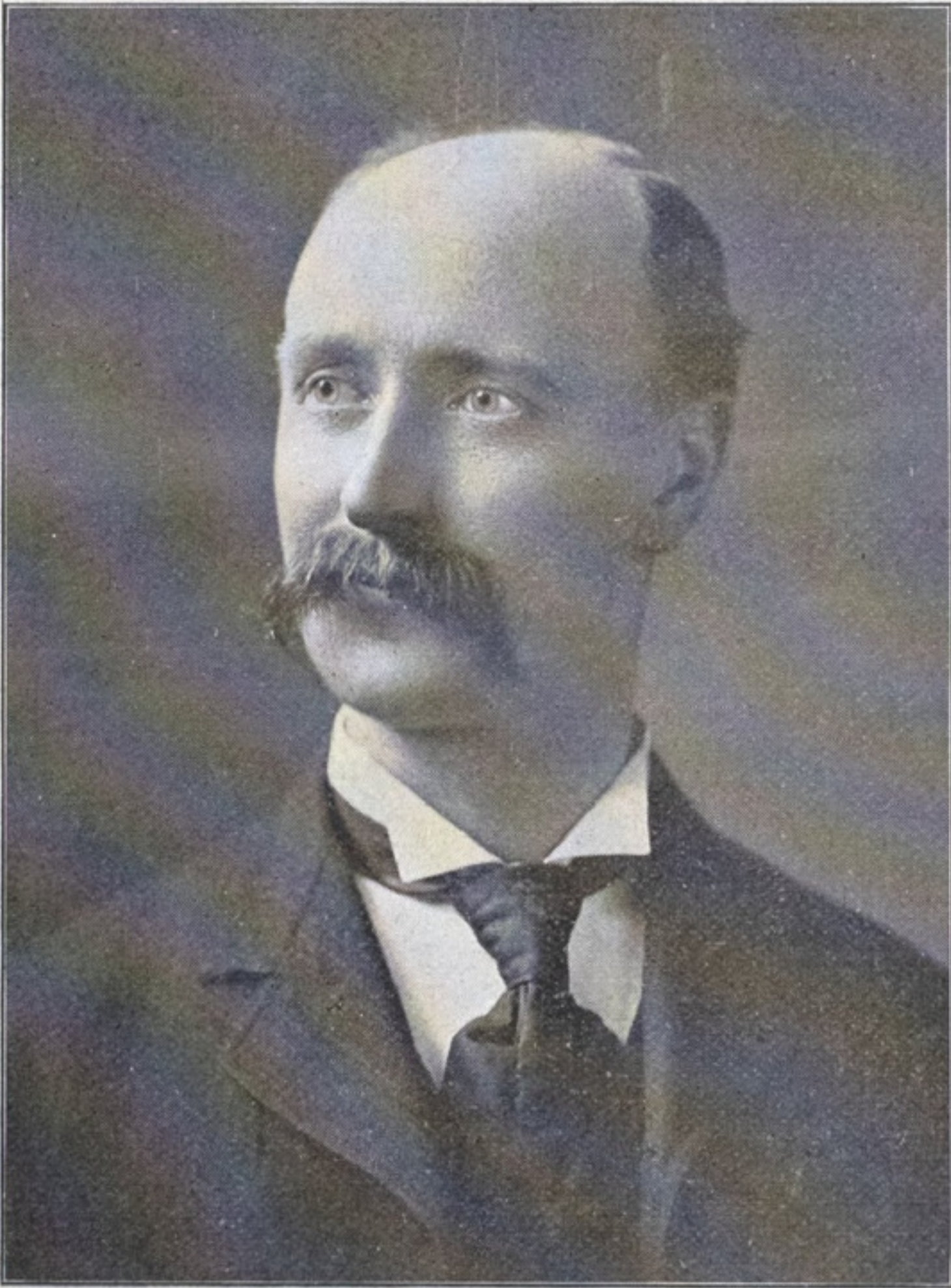
The captain was with the pilot when he felt the shock. He knew what it meant. There was little chance of escape from a monitor floating almost submerged. He ran to the narrow door of the pilot-house; so did the pilot. There was not room for two to pass through. Captain Craven drew back, saying;

"After you, pilot."

It meant only the difference of a moment, but it was the moment between life and death. The pilot passed through and was saved. The captain went down with his ship.

FUELING PORTS.

Except in the Pacific, supplies of coal are now scattered so widely over the world that usually a vessel requires only a few days' sailing or steaming to reach some port where she may replenish her bunkers. Suppose, for instance, that one



MR. ROBERT LOGAN, CLEVELAND.
Consulting engineer and expert in vessel construction. The majority of steel vessels built on the lakes during the past several years have been under his supervision. Also one of the appraisers of the shipyards, plants and dry docks for the consolidation of interests now known as The American Ship Building Co., superintendent of construction for the fleet of 500-foot steel steamers now being built, etc.

of our steam whalers in the Arctic, after a season north of Behring Strait should run short of coal she has only to go south as far as Unalaska, in the Aleutian Archipelago, to buy all she needs.

Outside of Europe coal is specially kept for sale to steamers at eight ports on the north coast of Africa; at thirteen ports of West Africa, including the Cape Verde Islands and the Canaries; at fourteen ports along the Gulf of Mexico and the Caribbean sea; at twenty-four ports of the West Indies; at twenty-two ports of North America, as far south as the Gulf of Mexico; at five islands of the Atlantic; at nine ports of East Africa; at eighteen ports of South Asia; at six islands of the Indian Ocean; at twenty-six ports of the East Indies and Philippines; at fourteen ports of the east Asian coast; at five ports of Japan, Sachalin and Kamschatka; at ten ports of Australia; at seven ports of New Zealand; at nineteen ports on the west of North America; at ten ports on the west coast of South America; at Honolulu and Hilo in the north Pacific, and at four islands in the south Pacific.

NOTES.

AN abstract of traffic kept by the lightships at the entrance to Liverpool, England, showed a total number of passages of 42,928 for the year ended April 1895. The full average daily traffic in and out of the port of Liverpool for the entire year was 118 vessels. The total number of vessels passing Detroit during the season of 1898 was 22,004.

THE immensity of the universe is aptly illustrated by Astronomer Newcomb in a current magazine. We refer to it because it is one of the most comprehensible illustrations that we have seen. He says that if an express train running 60 miles an hour day and night without stopping kept it up for 350 years it would just about complete the diameter of the circle made by the earth in its yearly journey around the sun. Now let this immense circle be represented by a lady's finger ring, and taking that as a standard of measurement, the nearest fixed star would be a mile distant and the furthest visible through the telescope at least 20 miles.

THE first steamer built by the Cunard Company was the Britannia, which was launched February 5th 1840. She was built of wood, by Robert Duncan, at Port Glasgow, her length being 207 feet; beam 34½; depth, 22½ feet; tonnage 1,156; Passengers carried, 115; cargo 224 tons. The engines, by Robert Napier, were side levers, with two cylinders, 72 in. diameter by 82 in. stroke of piston, driving paddle wheels 28½ ft. diameter. Steam of 20 lb. pressure was provided by four flue boilers with twelve furnaces, which consumed 30 tons of coal per diem. The speed of the vessel was 8½ knots, with the engine developing 710 indicated horse power; coal consumption, over 5 lb. per indicated horse power; time in making voyage, fourteen days.

THE rather startling statement comes from Europe that the signaling across the channel by Marconi's apparatus may have caused shipwrecks. It is suggested that the Hertz waves as they pass through space may act on the compasses of vessels and cause the helmsman to alter his course unwittingly. A ship recently lost in the channel was so badly out of her course as to make her position difficult to account for as being due solely to an error of the captain. The wreck took place just at the time when signals were being sent from the coast of Calais with Marconi's apparatus. It is stated also that the captain of the Ibis, a boat belonging to the French navy, made some observations with a view to determining what effect the signals had on his ship's compass, and that he reached the conclusion that the effect was noticeable.

MR. PLUMSTEAD severely criticises the Arctic explorer, Dr. Nansen, in an article in the June number of the London Nautical Magazine. He asks the doctor to explain the fact that he was in 95° E. and 89° 30' E. at the same moment; to reconcile the statements that at the same moment his chronometer was right, and yet 25 minutes wrong; and to explain the paradox that he was (by observation and dead reckoning) on, say August 13th, in 52° E., and that he began to look for Rawlinson Sound, which Payer had placed in 60° E., and not seeing it came to the conclusion that it did not exist. Mr. Plumstead contends that in the present day a very few miles of distance have an enormous importance in modern polar exploration. A few miles may constitute the difference between success and failure. In the Nansen expedition they constitute the difference between the immortality of Nansen and that of the captain of the Fram.

THE report of progress of ships building for the navy prepared by Admiral Hichborn, the chief constructor, shows that two battleships, Kearsarge and Kentucky, are within less than 10 per cent. of completion, and the Alabama, of another class, is but 2 per cent. behind, although contracted for one year later. The former ships are building at Newport News and the latter at Cramps, where the Maine is also under way, having been advanced 9 per cent. in the last few months when her first keel plates were laid down. The Illinois and Wisconsin, of the Alabama class, are progressing rapidly and each is due for service within a year. The Missouri and Ohio, authorized last summer, are just beginning to take shape. Little progress is reported on the four monitors which are just about begun. The large number of destroyers and torpedo boats building all indicate that the contractors are pushing ahead and will probably have the vessels delivered within the specified time. More of this class are on the stocks than the total number in service. The Chesapeake, the practice vessel, is practically completed, while the submarine boat plunger, building at Baltimore, has apparently not advanced any in three years.



ESTABLISHED 1878.

Published Every Thursday by

THE MARINE RECORD PUBLISHING CO.,
Incorporated.

C. E. RUSKIN,	-	-	-	Manager.
CAPT. JOHN SWAINSON,	-	-	-	Editor.
THOS. WILLIAMS, Chicago,	-	-	-	Associate.

CLEVELAND,
Western Reserve Building.CHICAGO,
Royal Insurance Building.

SUBSCRIPTION.

One Copy, one year, postage paid,	-	-	\$2.00
One Copy, one year, to foreign countries,	-	-	\$3.00
Invariably in advance.			

ADVERTISING.

Rates given on application.

All communications should be addressed to the Cleveland office.

THE MARINE RECORD PUBLISHING CO.,
Western Reserve Building, Cleveland, O.

Entered at Cleveland Postoffice as second-class mail matter.

CLEVELAND, O., JULY 20, 1899.

ACKNOWLEDGE the bravery of lake sailors as life savers, engineers included.

THERE is a striking likeness in physical build and features between Commodore Melville, U. S. N., and J. J. Hill, president of the Great Northern Railroad. There is more of the Scotch than the Italian about each, besides, they have both got there. Where? To the top of the tree in each calling.

MERITORIOUS and gallant conduct afloat always deserves recognition. The life-saving service costs millions of dollars for standing by to save life. Let a few dollars be expended by the Secretary of the Treasury in striking off medals for the members of the volunteer life-saving crew who picked up the castaways from the Margaret Olwill on Lake Erie.

SOME of the lake fleet built for a draft of about fourteen feet and now loading down two or three feet deeper, will feel the effects of their work this season. A carriage is not an express wagon, so much at least can be granted. Likewise, a 2,000 ton boat can't tote along 3,000 tons of ore and that, too, without being trimmed, unless she feels it, no matter what care is taken in the loading and discharging. This applies to metal as well as wooden boats. It is just as easy to distress a tank as a tub.

I HAVE received the following communication this week: "In your article 'A Vessel's Class,' in issue of July 13th, page 10, paragraph 3, you lay some stress upon the fact that (under the system you mildly criticize) the vessel pays every cent of the expense of classification. I would simply ask, who pays, and how much under the other system? Does it not bring up a third party who must have their profits, which must come out of the vessels, or do these classification societies come into the field simply to right wrongs and not for the money there is in it?" Well! this is a verdant sort of an inquiry. We made no allusion to "the other system" or any system in particular. Of course the expense must all come out of the vessel, that's why we thought the owners ought to have had a little consideration instead of his property being handled by ship-pers, who are, or should be, an unknown quantity in giving a vessel her character of build, condition and ability. The RECORD has printed column after column on the question of proper classification certificates and may later renew the subject.

TAPPING THE LAKES.

It is beyond question that the more artificial outlets a body or bodies of water are furnished with at special points the greater will be the comparative waste or outflow.

It is now well understood that the principal factors on which the stage of water in the Great Lakes depends, are the rainfall, evaporation, and the winter temperature. Rainfall furnishes the supply, evaporation draws away a large portion of the precipitation before it reaches the lake and the surface of the lakes presents vast sheets over which the process of evaporation is in regular action. A severe, cold and protracted winter season prevents the melting of the snow and thus lends another feature to the lack of supply in the lakes. Under these conditions it has been shown that since 1838 the water level has fluctuated about six feet. The natural volume of waste water, outlet, or safety valve may be placed at Niagara river, to which may be added the auxiliary or occasional outflow via the Welland and Erie canals. The level of Lake Superior is 601 $\frac{8}{10}$ feet above mean sea level, and Lake Erie is 572.23 feet above the level of the Hudson river at Albany, also 326 feet above that of Lake Ontario, the surface of Lake Ontario is 246 $\frac{8}{10}$ feet above mean sea level and thus is a feeder for the St. Lawrence river.

There is an area of more than 270,000 square miles representing the lake drainage basin, of which the actual water surface forms 95,275 square miles. The combined area of the lakes exceeds the area of England, Wales and Scotland. Other comparisons would also show that the water surface of Lake Superior alone nearly equals the combined areas of the several States of New Hampshire, Vermont, Massachusetts and Connecticut. The length of shore line of the lakes and their connecting rivers is about 5,500 miles, or equal to the coast line from Maine to the Isthmus of Panama. It has been estimated that if the average discharge of the lakes passed through a river one mile wide with a mean velocity of one mile per hour, such a river would have a depth of 40 feet from shore to shore.

We have thought it advisable to quote these figures as there seems to be a disposition evinced in certain circles to minimize lake interests along certain lines, and more markedly so, perhaps, where, and when efforts have been turned toward ascertaining, beyond the shadow of a doubt, how to best maintain the lake levels, also, to establish a system whereby the maximum depth of water may be conserved for lake commerce. If it is granted that the lakes are simply great pools of water and that they conform to all the laws governing the rise and fall of rivers as well as other land locked waterways, it should then be conceded that additional outlets and waste water would tend to diminish the whole, in a ratio corresponding to the number and volume of these pigot or spill holes, as in comparison with the natural waste or continual flow from the bung, which, in this instance, may be likened to the river Niagara.

Just a decade ago, it was our province to point out the possible injury to lake commerce which might be brought about through the construction of an immense open sewer tapping Lake Michigan and draining off millions of gallons of water daily in its enforced flow to the Mississippi. Some authorities supported our contention at that time while others loudly proclaimed that half a dozen more Niagaras would make no appreciable difference in the level of the lakes. At this stage, it does not appear to be beyond the province of investigators to ascertain approximately the quantity of water which nature will permit us to withdraw from the lake area without lowering their levels.

It is within the bounds of possibility that, at some time in the remote future, locks may have to be placed so as to regulate the level on each lake, however that may be, it is for the present and the more immediate future that measures should now be taken.

In this connection, we quoted last week no less an authority than Prof. Cleveland Abbe, of the Weather Bureau, also Lyman E. Cooley, Chicago, an eminent civil engineer, in their views on the effect which the opening of the Chicago drainage canal would have on the level of Lake Michigan, and they state that it would be infinitesimal. On the other hand, the Chief of the Weather Bureau admits that we know too little about the existing conditions to venture any assertions, pro or con, and rather relegates the consideration of the matter to be determined by hydraulic engineers, also stating that it would be necessary to establish a number of evaporimeters in the lake regions if the public is to demand information from the Weather Bureau regarding the process of evaporation going on over the surface of the lakes. It is

evident that the Weather Bureau knows too little about the physical geography, hydrography and generally measureable conditions regarding the lake region. Some years ago we keyed that department up to the primary stage of ascertaining the set and drift of lake surface currents, but there was soon too much inertia experienced for us to overcome, and this portion of the work partly ceased. Now it is confessed that the Weather Bureau has not the particulars or data to inform the public regarding the lake supply by precipitation over its water shed, or the periodic consumption caused by evaporation.

To overcome the views promulgated by interests antagonistic, or at least careless regarding the maintenance of lake levels, it is now in order for an international commission to be appointed, composed of the best possible talent obtainable in the United States and the Dominion of Canada, whose province it would be to lay before both countries the actual or probable results which the frequent tapping of the lake basins would bring about. If not from a commercial, the Dominion is interested from a territorial standpoint, and should as zealously guard the conservancy of her rights in this question as the United States. On the other hand, the situation must be admitted, that, if the State of Illinois, with or without the assistance of the Federal government, opens a canal through the State by tapping Lake Michigan, the Canadians will be at liberty to tap the supply nearer its source in constructing a ship canal from Georgian Bay to Lake Ontario, thus entailing we know not what injury and damage to all ports and lake interests lying between those points.

SALVAGE, BEFORE WAGES CLAIM.

And now it appears that, according to the British Admiralty law, a lien for salvage takes precedence over a wages claim of the crew. The steamer Gaspesia, after being ice bound in the Gulf of St. Lawrence for seventy days, was towed into St. Johns, Newfoundland, and attached by the Admiralty Court for a salvage claim of \$40,000, judgment was given for \$12,500 and costs, amounting in all to about \$15,000. All hands were then turned ashore, penniless, though with five months wages due and uncollectible. Some of the crew have been returned to the port of departure as "D. B. S." (distressed British seamen or subjects). The rest are left to be tramps, paupers on the charity of the Dominion government, or its citizens, which after all is the same thing. Surely there's a screw loose somewhere in this case. It is claimed that the law gives the salvor the first lien on the property salvaged, on the ground that if the vessel had not been salvaged there would have been no property in existence on which the crew could have laid claim to wages. As in the case of bottomry, where the last bond issued is the first to be paid, on the claim that the last monetary advance enabled the vessel to earn payment thereof, reach her destination, etc. In the case of the Gaspesia, she will probably sell for less than the salvors' judgment and the owners are, well, in a word, defunct. It would seem as if this rule ought to be reversed so that the salvors salvaged outside the claims of the original salvors—the crew, for, if the crew had not stuck by the ship there might not have been any salvage possible. However, it is hard to make tramps and beggars out of British subjects in a British colony when each one had about five month's earnings to his credit. Tramps who are penniless and without visible means of support, also beggars, who beg publicly, are jailed in many parts of the United States, but, we hardly think that this starving impecunious crew would have been "jugged" had they landed at a United States port. The British is a paternal sort of a government (?) the Gaspesia case to the contrary notwithstanding.

ONE NAVIGATOR.

The daily newspapers throughout the country, and a number of class papers as well as trade journals, are guessing at the manner in which Capt. Watkins of the Paris euchred the New York local inspectors of steamboats in decreeing himself to blame, with a strong recommendation for clemency, and exonerating beyond the shadow of reproach his officers. Capt. Watkins easily recognized the talent(?) he was up against, and, in a manner of speaking, "took the bull by the horns," floored his would-be censors by a dexterous twist and brought about the result to his own liking. There are individuals, however, who appreciate the situation and one such writes as follows:

"For the stranding of the steamship Paris, Capt. Watkins shoulders all the blame, and speaks of his officers in the

highest terms. It is true that the master alone is responsible for the safe navigation of the ship; but in this case the master admits in a manly manner that the loss of the ship was caused by a mistake on his part. But, what have his officers to say about the disaster? Did all of them make the same mistake as did their commander? If they did, it is certainly a very strange coincidence. In such ships as the Paris it is customary for every officer to navigate the ship with the same care, skill and interest as the master. Now, if the officers of the ship had taken such interest in their work, it is evident that they would have discovered the error in good time, and prevented the great loss of property and injury to a good man's reputation. Then the stranding of the ship seems to indicate that the officers under Capt. Watkins were of no use to him as navigators, so why should he praise them? A navigator cannot be too careful. Any one is liable to make a mistake, and therefore every officer should be a careful navigator, and when the master makes a mistake, such officers would very soon discover it."

It would be interesting to know how many certificated officers were carried on the Paris, or if there was any one to take charge in the event of Capt. Watkins being suddenly keeled over with a slight attack of gout, or any other trifling indisposition to which sailors are sometimes subject. It was only the other day that the British Board of Trade went after a fourth officer's (professional) scalp, and they got it, too, for a while. What was the true inwardness of the situation on the Paris? Why was Watkins permitted to "knock the brains out" of the Paris without a word of protest, advice or warning, when several men must have known exactly what he was going to do? The trial, however, is over, and the incident officially closed, unless indeed, a supplemental inquiry might be considered, in order to ascertain the reason of and for the above facts.

SAMPLES of cement used in the antique water conduits about Ephesus and Smyrna were recently subjected to chemical analysis, and the results have proved interesting from the archaeological as well as the engineering point of view. While the different samples were from water works that dated from several centuries before Christ to 300 years after, yet it was found that the general composition of all was quite similar. The chief constituent was carbonate of lime, but mixed with it was from 2 to 8 per cent. of organic material. This was ascertained to consist of a mixture of fatty acids, and it is believed that the cement was the kind which Pliny and Vitruvius mention in their works. Experiments were made with a cement consisting of burned lime and olive or linseed oil, but it was not found to be permanent. On the other hand, a mixture of two-thirds air-slaked lime and one-third olive oil hardened readily, and possessed great endurance, leading to the belief that this was the composition of the ancient cements which were analyzed.

In some way, some times, a line or word of satisfaction is heard occasionally. Relative to the editorial on "A Vessel's Class," in our issue of the 13th inst., an expert writes us as follows: "The article interests me greatly, especially the definition of a certificate of class, viz.: A builder's receipt, an owner's guarantee, an underwriter's authority, and a shipper's business guide. This is certainly the most brief definitions of the functions of a register of shipping that I have ever seen, and, while I have had frequent occasion to explain the relation that a classification society and its publication bears to the interests of the owner, underwriter builder and shipper, I have not been able to state it in so precise a manner as it appears in your editorial of the 13th inst." We may say in this connection, that the certificate is, as we suggested, either this or nothing.

THE boats' crew who rescued the castaways from the foundered steamer Margaret Olwill are entitled to the thanks of the marine community. Such bravery should meet with due recognition at the hands of people ashore. The engineer of the Sacramento, who so gallantly volunteered his services, is especially worthy of commendation. There is a long road of red tapeism to travel to get this case before the Secretary of the Treasury, by whose authority alone a life-saving medal can be granted. The rounds of circumlocution will have to be gone through, yet it ought to be tackled by some one. The owner of the Sacramento can do a good deal in this direction if he is so disposed, it is also a long time since a lake engineer was awarded a life-saving medal.

THE system of canals along the St. Lawrence river will soon be completed by the opening of the Soulanges canal. There are six of these canals—the Galop, the Rapid de Plat,

the Farran's Point, the Cornwall, the Soulanges and the Lachine. They have all been enlarged so that they will accommodate vessels as large as can get through the new Welland canal, which permits of the passage of vessels 270 feet long, 45 feet beam, and 14 feet draft. These canal improvements form a good reason why the deep waterway project of the St. Lawrence and Lake Champlain or some other adequate route to the coast should be adopted, if we would maintain our supremacy in the lake carrying trade.

JOHN P. TRUESDELL, New York grain exporter of the Produce Exchange, was a recent witness examined by the State Commerce Commission. Mr. Truesdell answered questions with regard to the loss of trade by giving figures showing the decline of grain shipments at New York, as compared with the shipments from all American ports. The ratio in 1893 was 47 per cent; 1894, 40 per cent.; in 1895, 36 per cent.; in 1896, 29 per cent.; in 1897, 56 per cent., in 1898, 40 per cent. The cause of the gain in 1897 was not stated by the witness. This is a feature that seriously affects the lake transportation interests, as the bulk of the grain carried on the lakes finds New York City, as a terminal; after that foreigners take hold for further carriage by water.

LAKE FREIGHTS.

The feature of the week has been the advance in coal freights, 60 cents is now paid on anthracite from Buffalo and 55 cents on bituminous from Ohio ports to Lake Michigan, with shippers hustling for Milwaukee tonnage at the increased rate and even 5 cents better offered in some cases. For Portage 50 cents is paid with vessels holding for 45 cents to Ashland and likely to get it, as Buffalo is chartering brisk at 60 cents and the freight market is advancing. The going rate to the head of Lake Superior from Ohio ports is still at 40 cents with a lack of tonnage to meet shippers' demands.

Grain rates have ruled at 2 cents on corn, Chicago to Buffalo, after the late raise of $\frac{1}{4}$ cent, $1\frac{3}{4}$ cents to Port Huron, with an easy tonnage market for shippers, since the slump to 2 cents in the early part of the week. The Duluth rate, which also had been marked down to $2\frac{1}{2}$ cents, has gone back to $2\frac{3}{4}$ cents with very light chartering. Toledo wheat to Buffalo $1\frac{1}{2}$ cents.

The \$1 rate on iron ore has not been maintained and 90 cents is now the quoted figure from Lake Superior, although a few good charters were placed at the \$1 rate with indications that it will shortly reach that figure as a going rate. Escanaba, 75 cents Ohio ports and 70 cents to Buffalo, 85 cents as the last report from Marquette with light chartering.

The lake freight on lumber from Duluth to Tonawanda is \$2.25, while a rate of \$1.75 is paid from Menominee. These figures show an advance of 50 cents or more since the season opened. At this time last year the prevailing rate between Duluth and Tonawanda was \$1.60, and \$1.25 was paid from Menominee. The close of last season saw the shippers paying as high as \$3.00 on some of their cargoes. Comparing the advance in rates last season with those of this year, vessel men predict that at least \$3.50 will be paid on the last cargoes down this fall. Lumbermen are complaining of the scarcity of tonnage.

AN INTERNATIONAL LAW ON COLLISIONS.

Delegates of the countries which were not represented at the recent International Maritime Congress met in London on Saturday last. Chief among the reforms suggested are the assimilation and codification of all maritime laws.

It is obvious that if a collision occur between vessels of different nationalities the verdict ought to be unaffected by the country in which the case is tried. Under present conditions this matter is of much moment, and injustice is often inflicted which the common interests of ship-owners and shippers should have rendered impossible. This can only be accomplished by an international treaty to deal with all cases upon a uniform standard.

CEMENT FOR RESISTING THE ACTION OF SALT WATER.

Dr. Michaelis, an Austrian authority on cements, has announced that his investigations have led him to the opinion that a mixture of Portland cement, puzzolana (volcanic tufa) and granulated blast furnace slag is better than Portland cement alone where structures are to be exposed to salt water. A company is being formed for the purpose of developing the puzzolana beds in the province of Syra, Greece.

LETTERS AT DETROIT MARINE POST OFFICE.

JULY 19, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Butler, Frank.	May, Frank, str. Matoa.
Beaudoin, Frank.	Menmuir, Chas. H.,
Corlett, Chas., str. Iron King.	S. Mitchell.
Duranceau, Stanley.	Mutard, Alex., str. E. Ward.
Elliott, Thos. H.	McDonald, Fred.
Gallagher, Chas.	McIntyre, Neil.
Hayes, Edward.	McKenzie, G. R., str. America.
Henry, Wm.	McArthur, Duncan.
Hilbert, James S.	Ouliver, H. W.
Hoskin, John E.	Quick, John A.
Herbert, Duffy.	Ratterman, Fred.,
Johnson, Capt.	Montgomery.
Kline, E. E.	Shahan, Ted.
Keenan John.	Schnettill, Edward.
Leonard, James R.,	Sawher, Milton.
Halloran.	Shaak, Andy.
La Tourneau, Israel.	Thompson, Mr.
Lockwood, Walter.	Tobin, Jacob, str. S. Mitchell.
Moorton, Geo.,	Trombley, Jas.
Halloran.	Urquhart, John A.
Monzo, F. L.	Van Winkle, Harry.
Mitchell, John,	Walker, W. J., 2, st. Armour.
North Land.	Warren, Tom.
Matheson, Murdock.	Welch, W. A.
Mills, Sherman.	Walker, Joseph.
Morrow, Edgar.	Zunker, H.
Merrick, E. Gerry, 2.	

RECENT MARINE PATENTS.

Patents on marine inventions issued July 11, 1899. Reported specially for THE MARINE RECORD:

628,457. Producing electric currents by the action of waves. Max Gehre, Rath, Germany.
 628,458. Wave motor. Max Gehre, Rath, Germany.
 628,506. Buoy. C. B. Wetterbergh, Malmo, Sweden.
 628,600. Compass and course corrector. J. M. Fields, San Francisco, Cal.
 628,710. Rudder hinge. C. S. Hamilton, New Haven, Conn.
 628,757. Ship. G. A. Chaddock, London, England.
 628,767. Rudder frame and gear. F. S. Cormier, Moncton, Canada.
 629,028. Dam. G. L. Cudner, New York, N. Y., assignor of seven-eighths to E. L. Zalinski and H. Tweedle, same place.
 629,133. Subaqueous tunnel. W. H. Knight and F. M. Lande, New York, N. Y.
 629,135. Subaqueous tunnel. Lewis Nixon and W. H. Knight, New York, N. Y.
 629,250. Water-wheel. Patrick Henretty, Belgrade, Minn.
 629,271. Lateral-motion reversible marine propeller. Alfred Reynolds, Dunedin, New Zealand.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
 OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DIST.,
 CHICAGO, Ill., July 19th, 1899.)

MENASHA RIVER LOWER BEACON LIGHT.—Notice is hereby given that the Menasha river lower beacon light in Little Butte-des-Morts Lake, head of Fox river, and lower end of Menasha river, Wisconsin, is reported as having been destroyed by fire.

The light will be re-established as early as practicable. By order of the Light-House Board:

F. M. SYMONDS, Commander U. S. N.,
 Inspector 9th Light-House Dist.

SCHISEOPHONE.

Used to detect flaws in metals. The instrument consists of a microphone combined with a mechanical striker and sonometer. In using the instrument, one operator directs the striker over the surface of the metal under examination, while another listens at the telephone in an adjoining room. When the striker hits a point over a flaw, the sound is increased, and the increase is so magnified by the microphone that the listener at the telephone can detect its presence.

Tests of the instrument were made at Ermont on the rails for the Northern Railway Co., and in every case where a flaw was indicated by the instrument it was found to exist on breaking the rail.

VESSELS CLASSED.

Vessels classed and rated this week by the American Bureau of Shipping, New York, in the Record of American and Foreign Shipping, are as follows: Screw, Allan Joy, owned by the Joy Steamship Co.; screw, Eureka, owned by the Eureka Transit Co.; schooner, Anna Murray; ship, St. Francis; bark, John R. Stanhope; bark, Samuel H. Nickerson; barge, J. B. King & Co., No. 19; British schooner, Arctic; British schooner, Bessie.

THE new White Star Atlantic liner Oceanic is insured at Lloyds and the Companies for \$2,500,000.

Almy's Patent Sectional WATER TUBE BOILERS.

NOW USED IN

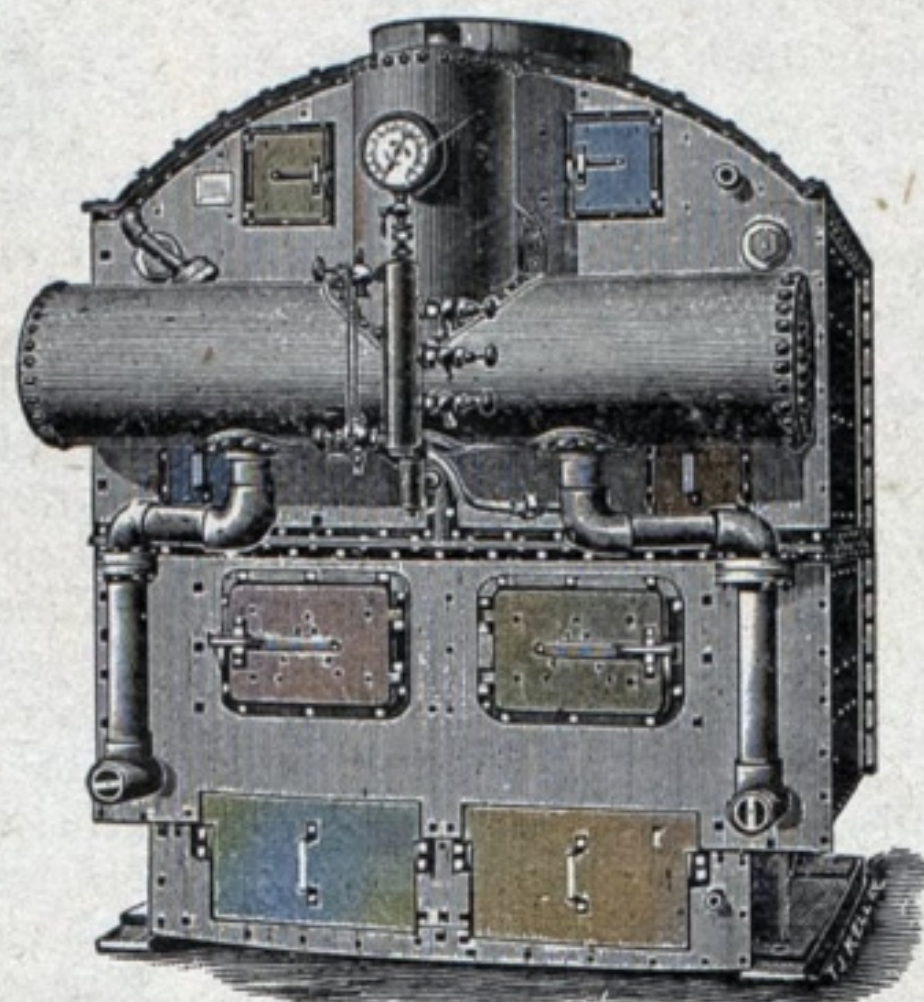
21 Passenger Boats from 70 to 160 ft. long.
61 Steam Yachts from 50 to 180 ft. long.

U. S. TORPEDO BOAT "STILETTO."

Numerous freight and fishing steamers, launches and stationary boilers are giving most excellent results.

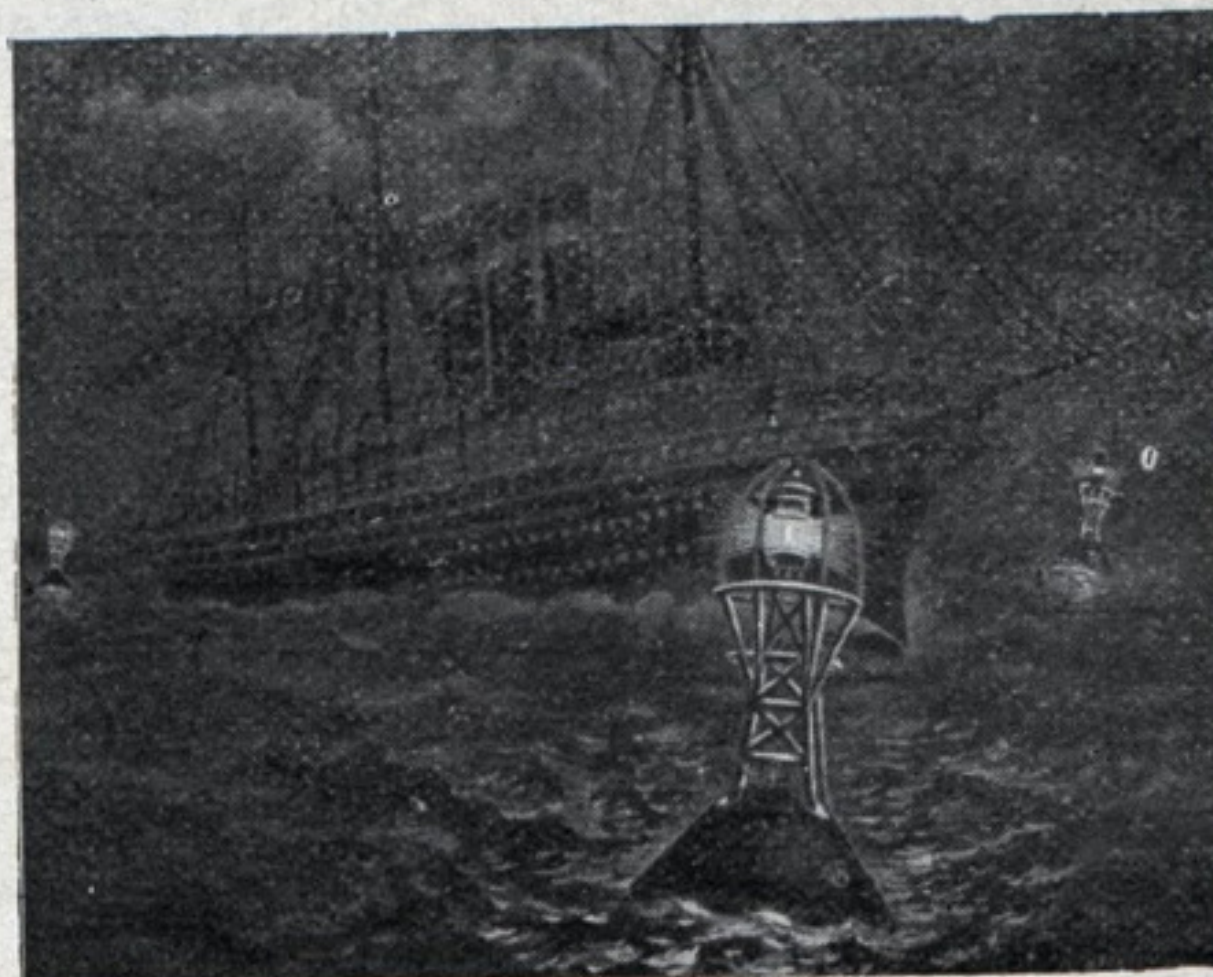
ALMY WATER TUBE BOILER CO.,

178-184 Allens Ave., near Rhodes St., PROVIDENCE, R. I.



Pintsch Gas Lighted Buoys.

Adopted by the English, German, French, Russian, Italian, and United States Light-House Departments for channel and harbor lighting. Over 800 gas buoys and gas beacons in service.



**Burn
Continuously**

from 80 to 365 days and nights without attention, and can be seen a distance of six miles.

Controlled by

**THE SAFETY CAR HEATING
AND LIGHTING CO.**

160 Broadway, New York City.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

The master of a ship in a foreign port cannot, at common law, make the owners responsible for money not actually necessary, though he may pretend that it is. *Hanschall vs. Swan*, 51 N. Y. Supp. 42.

A lien upon a vessel for damages caused by her fault to another vessel takes precedence of a maritime lien for supplies previously furnished to the offending vessel. *The John G. Stevens*, 18 S. Ct. Rep. 544.

The master of a ship in a foreign port gave a draft on the owners for money advanced for wages and supplies. Held, the instrument was an abbreviated form of bottomry. *Hanschall vs. Swan*, 51 N. Y. Supp. 42.

No distinction can be made between the proportions of salvage charged against the different kinds of cargo; and specie must bear its share of the common burden. *International Navigation Co. vs. The St. Paul*, 86 Fed. Rep. 340.

Cause for Discharge.—An assault upon the captain of the vessel by plaintiff after his employment had been terminated by defendant cannot be urged as a cause for the discharge in the defense of an action for a breach of the contract. *Gerardo vs. Brush*, 79 N. W. Rep. (Mich.) 646.

A contract for services such as are usually performed by ship's brokers and business agents, and performed on land, is not a maritime contract, and cannot be made the basis of a maritime lien, which may be enforced in a court of admiralty. *Grauman vs. The Humboldt*, 86 Fed. Rep. 351.

A contract constituting a person general passenger and freight agent of a steamship, and giving him entire control of her passenger and freight business, is not a maritime contract, and a suit in rem in admiralty will not lie for breach of such contract. *Grauman vs. The Humboldt*, 86 Fed. Rep. 351.

The right to claim a maritime lien for wages is not restricted to mariners who serve the ship with a peculiar nautical skill, but extends to all whose services are in furtherance of the main object of the enterprise in which the ship is engaged. *McRae vs. Bowers Dredging Co.*, 88 Fed. Rep. 344.

Duty of Discharged Employee.—Where plaintiff was discharged by the captain of defendant's yacht, having authority to make such discharge, he is not bound to find the defendant, and inform him of his discharge, and demand a continuance in his employ, in order to recover for a breach of the contract. *Gerardo vs. Brush*, 79 N. W. Rep. (Mich.) 646.

Master and Servant.—The captain of defendant's yacht made a parol contract of employment with plaintiff. Plaintiff claimed that the engagement was for the season, but defendant contended that the captain had only authority to make a contract from month to month. A written contract had been sent to the captain by defendant's attorney for plaintiff to sign. Defendant knew that plaintiff had been employed. Held, that the evidence shows a sufficient authority of the captain to make the contract for the season. *Gerardo vs. Brush*, 79 N. W. Rep. (Mich.) 646.

Liability of Carriers—Excluding Loss to Ship.—Although the owners of a vessel have been adjudged exempt from liability for damage to the cargo resulting from a fire due to the negligence of one of the crew, under section 3, of the Harter act, on the ground that they exercised due diligence to make the vessel seaworthy and in fit condition for the voyage, and were without personal negligence or fault, they cannot maintain an affirmative action against the owners of the cargo for the contribution in general average to the

ship's loss; but where they are invited to such an adjustment by an action brought by the sole owner of the cargo, the ship's loss must be taken into consideration, as the effect of excluding it would be to make the same act for which they are acquitted of responsibility by the statute the basis of an indirect recovery of a part of the damage which was in issue in the direct action. *The Strathdon*, 94 Fed. Rep. (U. S.) 206.

Seamen—Voyage on Lays—Right to Lien on Vessel.—An agreement by seamen to serve on lays on a fishing voyage, made with the master, who has made an oral agreement with the owners of the vessel to ship the crew and to pay to the owners a specified portion of the proceeds of the catch, does not change their character as seamen, their shares being substantially wages, nor deprive them of their right to a lien therefor against the vessel, where the master, after disposing of the catch, absconded with the proceeds. *The Carrier Dove*, 93 Fed. Rep. (U. S.) 979.

Salvage—Compensation.—An allowance of \$13,000 for salvage services in getting a steamer off a sand bar should be reduced 50 per cent., though the steamer was worth \$300,000, the value of the tugs employed being only \$18,000, all the services being rendered under the direction and control of the master of the steamer, the real services which put her afloat being in the main, rendered by herself, operated by the master and crew, it appearing probable, the good weather continuing, that without the services of the tugs the master would have successfully floated her through the use of his own crew and appliances, no risk being incurred by the salvors, and the tugs being exposed to no danger, the skill shown in rendering the services being of the ordinary kind, the labor being the ordinary employment of the tugs and persons engaged, the time employed being less than a day, and it appearing that extraordinary awards were given by the decree to members of the crews of the tugs, such as \$300 to cooks and firemen, who performed no services out of their usual routine, and whose wages were \$1 a day. *Ulster S. S. Co. vs. Cape Fear Towing & Transportation Co. et al.*, 94 Fed. Rep. (U. S.) 214.

Seamen—Personal Injuries—Improper Care—Liability of Master.—Plaintiff, a seaman, froze his hand while obeying the orders of the master of the ship. The steward put plaintiff's hand in cold water, and scraped a potato, which was put on his hand; but there was nothing to show whether the latter act was beneficial. Plaintiff was warned not to go near the fire. Nothing more was done until the end of the voyage, five days later, when two of plaintiff's fingers had to be amputated. The usual plan of treatment for a frozen hand is to bathe it in ice-cold water, give an internal stimulant, and in a few hours increase the temperature, gradually bringing the frozen part into contact with ordinary temperature. The physician who afterwards treated the hand testified that he used oil on it to soothe the pain, and that it was proper treatment in case of frostbites; but it was not shown that the application of oil would have had any effect in curing the frostbite, or in preventing the injury which resulted; nor was it shown that the application of oil was known to the master, or was so commonly used for such purpose that he should have known of it. Held, that the master did not fail to provide proper treatment, so as to be liable in damages. *Johnson vs. Holmes*, 53 N. E. Rep. (Mass.) 1000.

It is probably not generally known, but lying in the water of Spring Lake near Ferrysburg, is the lower portion of the hull of the sloop *Porcupine*, one of the nine vessels that Com. Perry commanded in the memorial battle on Lake Erie in 1812, when the British were vanquished. The *Porcupine* was taken to Detroit in 1830 and her name changed to the *Caroline*. In 1855 after long years of service, she was allowed to sink off Johnson's boiler works at Ferrysburg. So says the Grand Haven Tribune. Some enterprising individual might reap a snug sum by turning the oak timbers of the vessel into canes and selling them as relics.

TREASURY DECISIONS.

ADMEASUREMENT OF VESSELS.

Freight rooms must be included in gross tonnage.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, }
WASHINGTON, D. C., July 3, 1899. }

SIR: This office is in receipt of your letter dated the 27th ultimo, relative to a steamboat now building at your port, with a house 70.7 feet long, 7.2 feet high, and from 15 to 18 feet wide, the house being inclosed to the roof for 11 feet at the forward end, and for 22 feet at the after end, while the central part or freight room, 37 feet long, "is inclosed to a height of but 3 feet, leaving an open space of 4 feet on each side above."

As the owner desires that the gross tonnage shall not exceed 100 tons, you request specific instructions as to the course to be pursued in measuring her.

The bureau directs that the freight room in question shall be included in the recorded tonnage of the vessel.

Respectfully yours,

E. T. CHAMBERLIN, Commissioner.

Collector of Customs, Portland, Ore.

DRAWBACK—BOILER TUBES.

Boiler tubes manufactured from Swedish billets for use in construction of boilers for two Russian battle ships in course of construction in the United States, no drawback on, under section 30, act of July 24, 1897, as such use does not involve an exportation.

TREASURY DEPARTMENT, July 7, 1899.

GENTLEMEN: Replying to your inquiry of the 3d instant, whether drawback under section 30 of the act of July 24, 1897, will be allowed on boiler tubes manufactured by the Shelby Steel Tube Company, of Cleveland, Ohio, from imported Swedish billets and intended to be used in the construction of boilers for the two Russian battle ships now being built by Messrs. Cramp & Sons' Company, of Philadelphia, I have to inform you that no drawback of duties under section 30 of the act of July 24, 1897, can be allowed on the boiler tubes in question, as the use thereof in the construction of the boilers for the battle ships referred to cannot be considered an exportation within the meaning of section 30.

Respectfully yours,

O. L. SPAULDING, Assistant Secretary.

Messrs. F. E. Wallace & Co., New York, N. Y.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone
Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,491,000	1,033,000	311,000	5,000	105,000
Chicago	5,507,000	4,411,000	621,000	323,000	150,000
Detroit	186,000	55,000	10,000	9,000	.....
Duluth	5,066,000	359,000	650,000	12,000	24,000
Fort William, Ont. ..	2,000,000	.....	.....	.....	.....
Milwaukee	58,000	3,000	1,000	.....	10,000
Port Arthur, Ont.	200,000	.....	.....	.....	.....
Toledo	1,412,000	712,000	79,000	3,000	.....
Toronto	56,000	.....	12,000	.....	9,000
On Canal	805,000	26,000	298,000	.....	250,000
On Lakes	1,165,000	1,703,000	120,000	82,000	.....
Grand Total	34,552,000	12,634,000	4,793,000	731,000	698,000
Corresponding Date, 1898	10,361,000	19,987,000	5,572,000	460,000	385,000
Increase	543,000	.....	.....	4,000	.....
Decrease .....	.....	329,000	859,000	.....	279,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE largest vessel built in 1845 on Lake Ontario was the *Liverpool* of 350 tons burden. She was constructed at Garden Island. The *Quebec* was also built that year at Long Island.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., July 13, 1899.

PRESQU'ILE FOG SIGNAL STATION.—Notice is hereby given that, on or about August 1, 1899, a 10-inch steam whistle will be established in the structure recently erected on the northeasterly shore of Presqu'ile, southerly shore of Lake Erie, about 1 1/4 statute miles N. 35° 10' W. (N.W. 7/8 N.) from Presqu'ile Pierhead Light-House (on the outer end of the pier at the entrance to Erie Harbor) and 1 3/8 statute miles N. 78° 23' E. (E. by N.) from Presqu'ile Light-House (on the northerly shore of the peninsula.) Bearings are true.

During thick or foggy weather the signal will sound blasts of 5 seconds' duration separated by silent intervals of 25 seconds, thus:

Blast	Silent interval	Blast	Silent interval
5 sec.	25 sec.	5 sec.	25 sec.

MENASHA RIVER LOWER BEACON LIGHT.—Notice is hereby given that, on about July 17, 1899, the color of the light at this station, in Little Butte des Morts Lake, head of Fox river, and lower end of the Menasha river, will be changed from white to red, its height will be increased to about 19 1/2 feet above mean lake level, and it will illuminate the entire horizon.

MENASHA RIVER UPPER BEACON LIGHT.—Notice is hereby given that, on or about July 17, 1899, the color of the light at this station, in Lake Winnebago and at the head of the Menasha river, will be changed from white to red, its height will be increased to about 19 1/2 feet above mean lake level, and it will illuminate the entire horizon.

TAIL POINT LIGHT STATION.—Notice is hereby given that, on or about August 1, 1899, the fourth order fixed white light at this station will be discontinued in its present location, near the southerly end of Long Tail Point, and re-established in the structure recently erected in about 10 feet of water on the westerly side of the channel in the southerly end of Green Bay, near the entrance to Fox river. The light will illuminate the entire horizon.

The focal plane of the light will be 38 1/2 feet above mean lake level, and the light may be seen 13 1/4 miles in clear weather, the observer's eye 15 feet above the water.

The structure is a square, brick pier, supporting a buff, frame dwelling with white trimmings and a red, pyramidal roof, surmounted by a black, cylindrical, iron lantern.

The fog bell will also be moved to the new structure, and, during thick or foggy weather will, as heretofore, be sounded by machinery a single blow every 10 seconds.

Bearings (true) and distances of prominent objects from the new structure are:

Tail Point Light-House (present station) N. by W. 1/4 W., about 4,800 feet (1 1/2 statute mile).

Grassy Island (lower) Light-House, S. by W. 3/4 W., 1 1/8 statute miles.

TAIL POINT PILE CLUSTER BEACON LIGHT.—Notice is

hereby given that, on or about August 1, 1899, the fixed white lantern light on the westerly side of the dredged channel leading to the mouth of the Fox river, southerly end of Green Bay, will be discontinued.

By order of the Light-House Board.

FRANCIS J. HIGGINSON,
Rear-Admiral, U. S. Navy, Chairman.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The three elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 21.....	E. 28° N. = N. 5 1/2 E. = N. E. by E. 1/2 E.		
July 23.....	E. 27° N. = N. 5 3/8 E. = N. E. by E. 3/8 E.		
July 26.....	E. 26° N. = N. 5 1/4 E. = N. E. by E. 1/4 E.		

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 21.....	E. 29° E. = N. 5 3/8 E. = N. E. by E. 3/8 E.		
July 23.....	E. 28° N. = N. 5 1/2 E. = N. E. by E. 1/2 E.		
July 26.....	E. 27° N. = N. 5 3/8 E. = N. E. by E. 3/8 E.		

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 21.....	E. 30° N. = N. 5 3/8 E. = N. E. by E. 3/8 E.		
July 23.....	E. 29° N. = N. 5 1/4 E. = N. E. by E. 1/4 E.		
July 26.....	E. 28° N. = N. 5 1/2 E. = N. E. by E. 1/2 E.		

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 21.....	E. 31° N. = N. 5 1/4 E. = N. E. by E. 1/4 E.		
July 23.....	E. 30° N. = N. 5 3/8 E. = N. E. by E. 3/8 E.		
July 26.....	E. 29° N. = N. 5 1/4 E. = N. E. by E. 1/4 E.		

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

BUILDING UNDER INSPECTION.

The following vessels are being built under inspection of the American Bureau of Shipping, New York, for classification in the Record of American and Foreign Shipping.

At the Newport News Ship Building & Dry Dock Co.'s Works, 4 steamships for Southern Pacific Co. 400 feet long; 2 steamships for the Cromwell Steamship Co., 400 feet long;

2 steamships for the Pacific Mail Steamship Co., 550 feet long.

At the Wm. Cramp & Sons Ship Building Works, Philadelphia, Pa., 1 steamship for the Plant Steamship Co., 400 feet long; 3 steamships for the J. D. Spreckels Bros., 400 feet long; 2 steamships for New York & Cuba Mail S. S. Co., 341 feet long.

At the Harlan and Hollingsworth Co., Wilmington, Del., 1 steamship for Messrs. Boulton, Bliss & Dallett "Red D Line," 269 feet long; 1 steamship for Boston & Philadelphia S. S. Co.'s Windsor Line, 290 feet long; 2 steamships for N. Y. & Porto Rico S. S. Co.'s Line, 317 feet long; 1 steamship for the Metropolitan S. S. Co., 271 feet long.

At the Neafie & Levy Works, 1 tug for Philadelphia & Reading R. R. Co., 157 feet long; 1 steamship for the York River & Chesapeake service, 246 feet long.

At the works of J. H. Dialogue, Camden, N. J., 1 steam lighter for the Grasselli Chemical Co., 96 feet long.

At the Burlee Dry Dock & Ship Building Co., Port Richmond, N. Y., 4 steel barges for the J. B. King Transportation Co., 207 feet long.

At the works of Arthur Sewall & Co., Bath, Me., 2 steel sailing ships for their own account, 328 feet long.

At Lewis Nixon's shipyard, Elizabethport, N. J., 1 steel steam yacht, for Tams & Lemoine, 148 feet long.

At Erie Basin, Brooklyn, N. Y., 1 steel steam yacht for Tams & Lemoine, 130 feet long.

EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, report the Eastern freight situation as follows:

The impending advance in grain charters has been established during the week, and we can at the time of writing report freights to Cork f. o. at 3s. 6d.; for large vessels, 2s. 10d. @ 3s. to picked ports, both from range of loading ports and for August or later loading. A limited enquiry for boats to carry mixed cargoes of oats and heavy grain continues, and some further fixtures might be effected at 2s. 3d. and 2s. 9d. respectively from range of picked ports. The enquiry for grain tonnage beyond August loading is not yet active, nor can at the moment Cork f. o. vessels be placed at above 3s. 6d. The enquiry for prompt boats from the Gulf appears to have been met at the moment, but the unusually good figures obtained for prompt steamers has caused an advance in price demanded thence for fall tonnage, and which has been conceded quite freely by charterers. In consequence of the rather sudden advance in grain charters, owners have of late assumed a waiting attitude, under which timber and deals are momentarily neglected in spite of a fair demand and willingness on the part of charterers to fall in with some advance over last fixtures. For general purposes the demand for steam tonnage continues inactive.

There is no actual change in the position of our market for sailing vessels, nor in the causes mentioned as restricting a livelier business, in this line. The enquiry for tonnage continues over all branches, but more particularly concerning general cargo or lumber to South America. Rates consequently remain very firm, but we can quote no advance.

Admiral Crowninshield, chief of the Bureau of Navigation, Navy Department, has left Washington for Europe to make a personal inspection of the English system of naval barracks as substitutes for receiving ships.

TOBIN BRONZE

(Trade-Mark Registered.)

Tensile strength of plates one-quarter inch thick, upward of 78,000 lbs. per square inch. Torsional strength equal to the best machinery steel. Non-corrosive in sea water. Can be forged at cherry red heat. Round, Square and Hexagon Bars for Bolt Forgings, Pump Piston Rods, Yacht Shaftings, etc. Rolled Sheets and Plates for Pump Linings and Condenser Tube Sheets, Centerboards, Fin Keels and Rudders.

The Ansonia Brass & Copper Co.

SOLE MANUFACTURERS,

Send for Pamphlet.

99 John St., NEW YORK.

S.F. HODGE & CO.

MARINE ENGINES,
PROPELLER WHEELS,
DECK HOISTERS,
MARINE REPAIRS.
312 ATWATER STREET,
DETROIT, MICH.

Chas. E. & W. F. Peck,

58 William Street, New York City.

Royal Insurance Building, Chicago, Ill.

C. T. BOWRING & CO.

5 and 6 Billiter Avenue, E. C.,

London, England.

Insurance

BROWN & CO., - - - 202 Main Street, Buffalo, N. Y.
PARKER & MILLEN, 15 Atwater Street, W., Detroit, Mich.
J. G. KEITH & CO., - 138 Rialto Building, Chicago, Ill.
LA SALLE & CO., Board of Trade Building, Duluth, Minn.

Are prepared to make rates on all classes of Marine Insurance on the Great Lakes, both CARGOES AND HULLS.

INCORPORATED 1794.

Insurance Company of North America

CAPITAL, Paid up in Cash,	-	-	-	-	\$3,000,000.00
ASSETS,	-	-	-	-	10,173,488.90

CHARLES PLATT, President.
GREVILLE E. FRYER, Sec'y and Treas.
T. HOUARD WRIGHT, Marine Secretary.

EUGENE L. ELLISON, Vice President.
BENJAMIN RUSH, Second Vice President.
JOHN H. ATWOOD, Assistant Secretary.

Lake Marine Department, GEORGE L. McCURDY, MANAGER
CHICAGO, ILL.

Prominent Fueling Firms==Docks and Lighters.



Steamboat Fuel at Chicago.

YOUGHIOGHENY and
LEHIGH COAL CO.
J. T. CONNERY, Manager. ARCHIE J. HITCHCOCK, Dock Supt.
MAIN OFFICE: 1238-1242 Chicago Stock Exchange Building.
Long Distance Telephone, Main 5049. 110 LA SALLE STREET.

FUEL DOCKS: No. 1, Michigan Slip and Basin. 'Phone 3046, Main.
No. 2, N. Halstead St. Bridge. 'Phone 773, North.
FUEL LIGHTER: Equipped with 125 2-ton Buckets for
Fueling anywhere in Harbor

WE PRODUCE OUR YOUGHIOGHENY COAL, AND GUARANTEE QUALITY.



Steamboat Fuel at Cleveland.

THE PITTSBURGH &
CHICAGO GAS COAL CO.
J. A. DONALDSON, Manager. N. J. BOYLAN, Fuel Manager.
OFFICE: 420-421 PERRY-PAYNE BUILDING.
TELEPHONE, MAIN 1888.

FUEL DOCKS: No. 1, River Bed, through Valley R. R. Bridge. } Telephone,
No. 2, Main River, Foot of West River Street. } West 190.
FUEL LIGHTER: 300 Tons Capacity; Fuel Anywhere in the Harbor.

PICKANDS, MATHER & Co.

PIG IRON.
IRON ORE AND COAL.

FUEL LIGHTERS

AT BUFFALO, ERIE, ASHTABULA, AND CLEVELAND. At DETOUR, MICH., A FUEL DOCK equipped with
Shute capacity of 600 Tons.
Best Quality PITTSBURGH COAL furnished at any
time during Day or Night.

WESTERN RESERVE BUILDING, CLEVELAND, O.

M. A. HANNA & Co.

COAL, IRON ORE AND PIG IRON.

Steamboat Fuel at Ashtabula.

Large Supplies of Best Quality.

Fuel scow with elevators and discharging
spouts. Storage of 650 tons. Discharges
150 tons an hour into steamers while
unloading cargo.

LIGHTER

carrying different grades
at all times.

MINERS AND SHIPPERS.

MAIN OFFICE, Perry-Payne Bldg., Cleveland, O.

THE W. L. SCOTT COMPANY,

ERIE, PA.

WHOLESALE DEALER IN

Shamokin-Wilkes Barre ANTHRACITE.

Youghiogheny, Mansfield, PITTSBURG.

Vessel Fueling a Specialty

by steam lighter or car dump,
at all hours. Electric light.

...Coals

MAIN OFFICE: SCOTT BLOCK. LONG DISTANCE 'PHONE 440.

FUELING OFFICE: CANAL DOCK. LONG DISTANCE 'PHONE 320.

Youghiogheny River Coal Co.

MINER AND SHIPPER OF

OCEAN MINE COAL.

YOUGHIOGHENY
GAS AND STEAM

General Office:
Erie, Pa. Long Distance 'Phone 409.

Shipping Docks:
Ashtabula, O. Long Distance 'Phone 76.

VESSELS FUELED AT ALL HOURS

ELECTRIC LIGHT.

WITH OCEAN COAL ONLY,
BY STEAM LIGHTER OR CAR DUMP.

Use the Vanduzen
Steam Jet...

PUMP

THE BEST STEAM JET PUMP IN THE WORLD.



It pumps the most water
using the least steam.
Its cost is a little more than
the common syphon, but will
use only one-third the quan-
tity of steam; and it takes
coal (? of \$) to make steam.
The only reliable Jet Pump
for fires on steam vessels.
A No. 7 Pump, costing
\$25.00, will force water
through 50 feet
of hose and
throw a 3/4-inch
solid stream of
water 75 feet
from end of nozzle without
fail as long as there is water
at end of suction pipe. It will
not freeze. Has no valves.
Every pump guaranteed.
Ask your ship chandler for
them, or write to us for
illustrated catalogue.

THE E. W. VANDUZEN CO., CINCINNATI, O.

The Cuddy-Mullen Coal Co.

Miners and
Shippers of

STEAM COAL

FUELING DEPARTMENT
FACILITIES.

CLEVELAND HARBOR.—Car Dumper; Eight Pockets, 1000 Tons Capacity; Lighter
Steam Derricks.

DETROIT RIVER BRANCH.—Amherstburg: Four Pockets; Three Steam Derricks
SANDWICH—Fourteen Pockets and Two Steam Derricks.

"SOO" RIVER BRANCH.—Two Docks, (Formerly known as the Anthony and Watson
Docks,) Equipped with Pockets and Steam Derricks.

GOOD
COAL.

COURTEOUS
ATTENTION

QUICK
DISPATCH.

General Offices, Perry-Payne Bldg., Cleveland, O.

DONNELLY CONTRACTING Co.

896 ELLICOTT SQUARE,

BUFFALO, N. Y.

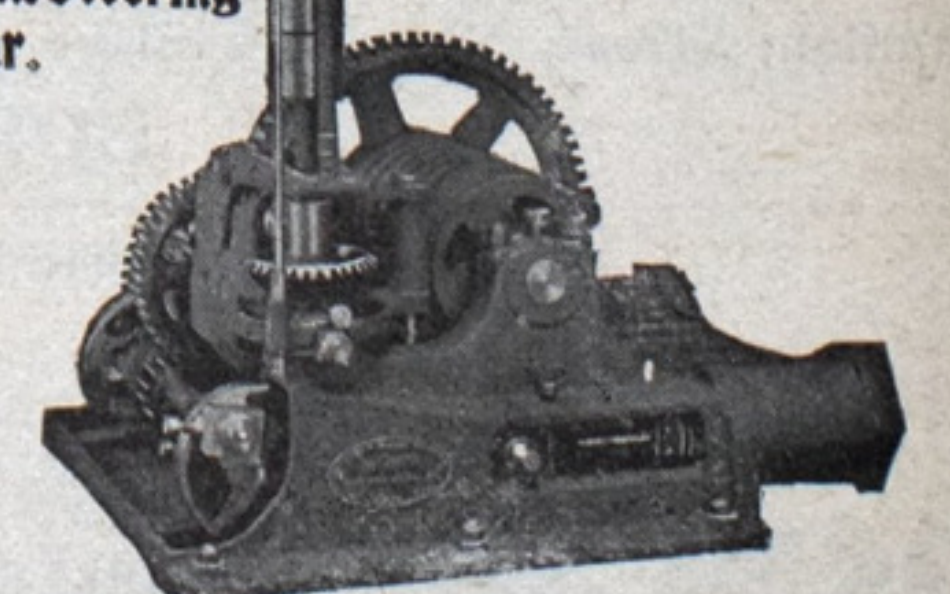
CONTRACTORS AND CONSULTING ENGINEERS,
HARBOR AND CANAL WORKS, ETC.



Simplest,
Strongest
and most
Reliable.
Changed
from Steam
to Hand or
back by one
lever in less
than one
Second.

No. 8
Beck Patent
Steam and
Hand Steering
Gear.

BUILT BY
Pawling & Harnischfeger,
Milwaukee, Wis.



U. S. Hydrographic Office Charts, Books of
Sailing Directions, Etc., are for sale at the office
of The Marine Record, Western Reserve
Building, Cleveland.

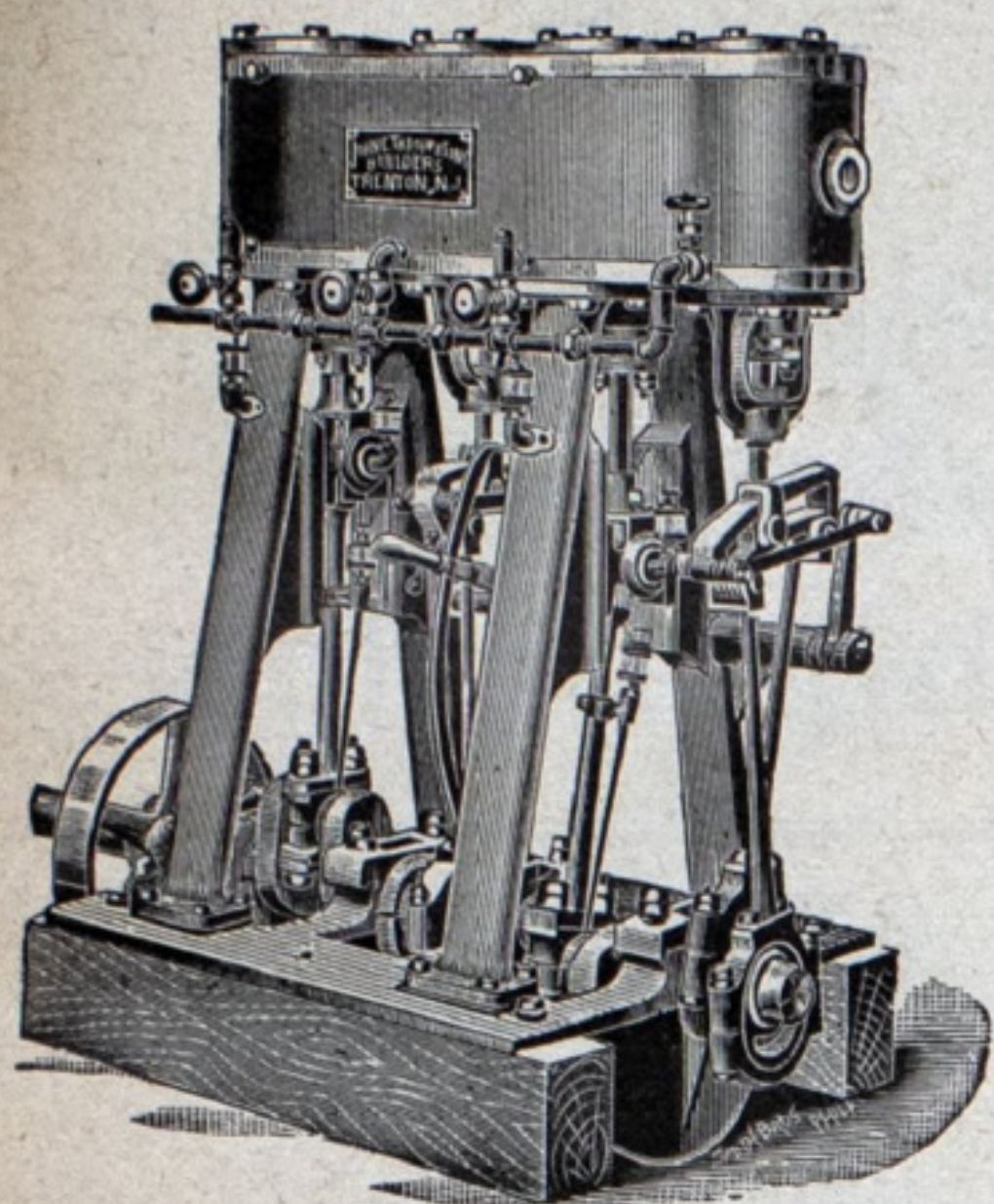
PATENTS

Procured on Inventions
and Designs. Labels,
Prints and Trade Marks
Registered

Sixteen Years' Experience.

R. W. BISHOP, - Washington, D. C.

John E. Thropp & Sons' Co.

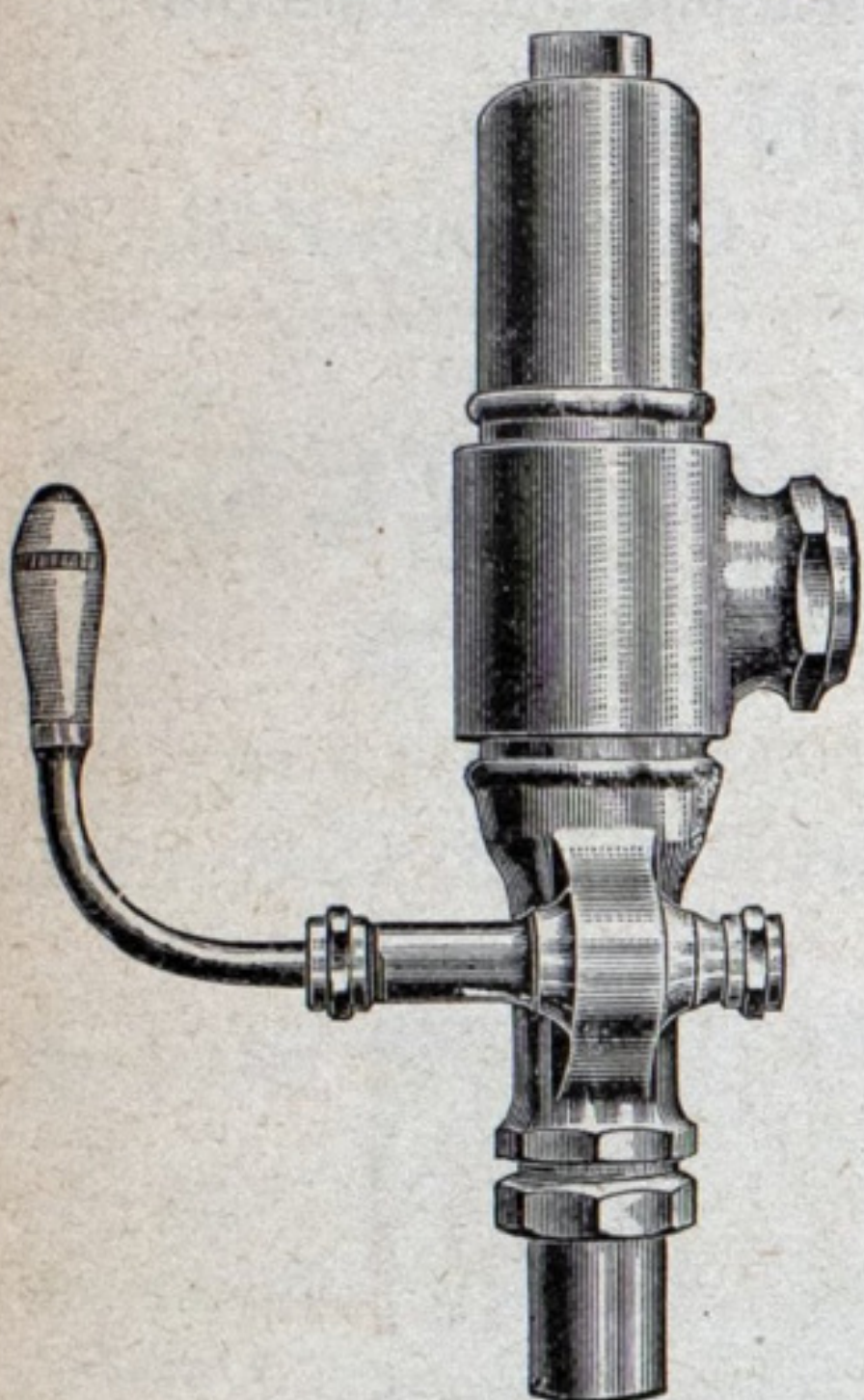


BUILDERS OF
Compound and Triple Expansion
ENGINES,

Boilers, Surface Condensers, Propeller
Wheels, Etc.

Contracts taken for yachts and tugs
complete. Send for photographs of En-
gines and descriptive pamphlet.

Works on Delaware & Raritan Canal Basin.
TRENTON, N. J.



THE KENNEY FLUSHOMETER

FOR FLUSHING WATER CLOSETS.

THE BEST SYSTEM EVER INVENTED FOR USE ON
STEAM VESSELS.

Owners and constructors of Steamships, Yachts and
Steamboats have found it indispensable. Used by
the U. S. War and Navy Departments. Transport
Mohawk, U. S. Cruiser Detroit, U. S. Gunboat Am-
phitrite. Also Albany Day Line Steamers and others.

THE KENNEY FLUSHOMETER

Is Patented and Manufactured only by

THE KENNEY CO.,

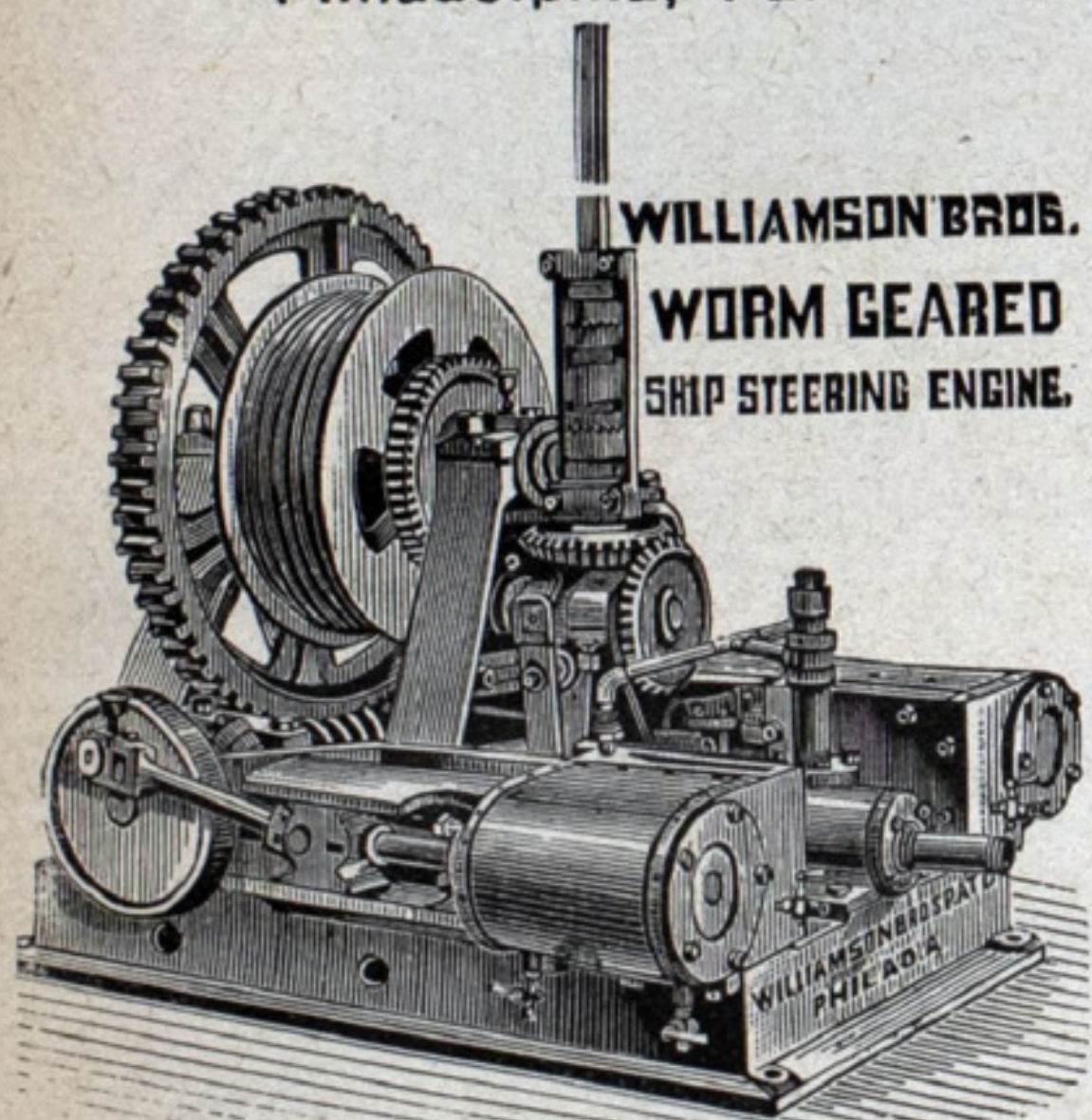
Who guarantee the successful operation of the system.

Send for illustrated pamphlet,

THE KENNEY COMPANY,
72-74 Trinity Place, NEW YORK.

WILLIAMSON BROS.

COR. RICHMOND AND YORK STS.,
Philadelphia, Pa.



WILLIAMSON BROS.
WORM GEARED
SHIP STEERING ENGINE.

HOISTING and SHIP ENGINES
STEERING ENGINES.

With either Fractional, Spur or Worm Gear of
Various Patterns to Suit all Purposes.

Compasses Adjusted

For deviation, and deviation
tables supplied. Great facilities
for doing the work by day or
night.

John Maurice.

Office, 24-26 Market St., CHICAGO.
Residence, 1155 South Sacramento Avenue.

Scott's Coast Pilot for the Lakes.

Price, \$1.50.

For Sale by

THE MARINE RECORD,

Western Reserve Building, Cleveland.

JOHN DONNELLY, SR., PRES.
JOHN DONNELLY, JR., VICE PRES.

THE DONNELLY SALVAGE AND WRECKING CO., Ltd.

KINGSTON, ONT.

EXPERIENCED DIVERS, TUGS, STEAM PUMPS, ETC.,

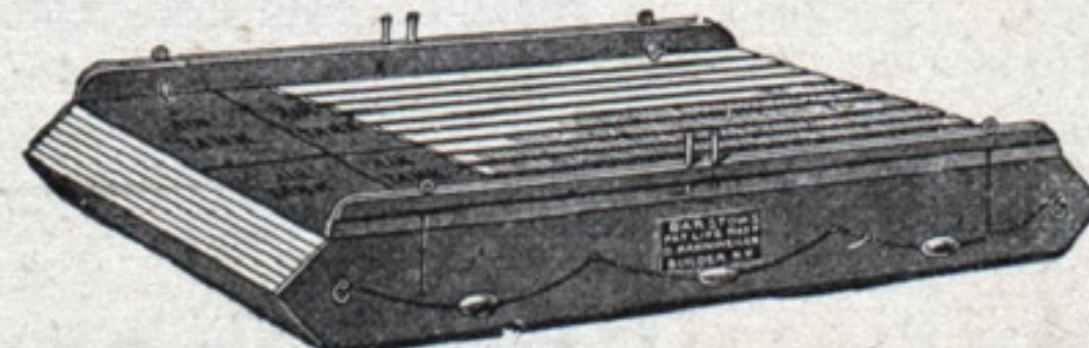
SUPPLIED ON SHORTEST NOTICE.

NEVERSINK CORK JACKET AND LIFE BELT.

Warranted 24 lb. Buoyancy and full Weight of Cork, as required by U. S. Inspectors. Consolidated Cork
Life Preservers. Superior to all others. Rings Buoys and Fenders. SAFEST CHEAPEST.
Approved and adopted by U. S. Board of Supervising Inspectors.
Also adopted by the principal Ocean, Lake and River Steamer Lines as
the only Reliable Life Preserver. Vessels and trade supplied. Send for
Catalogue.
Awarded four medals by World's Columbian Exposition.



METALLIC
and
WOODEN
LIFE
BOATS.



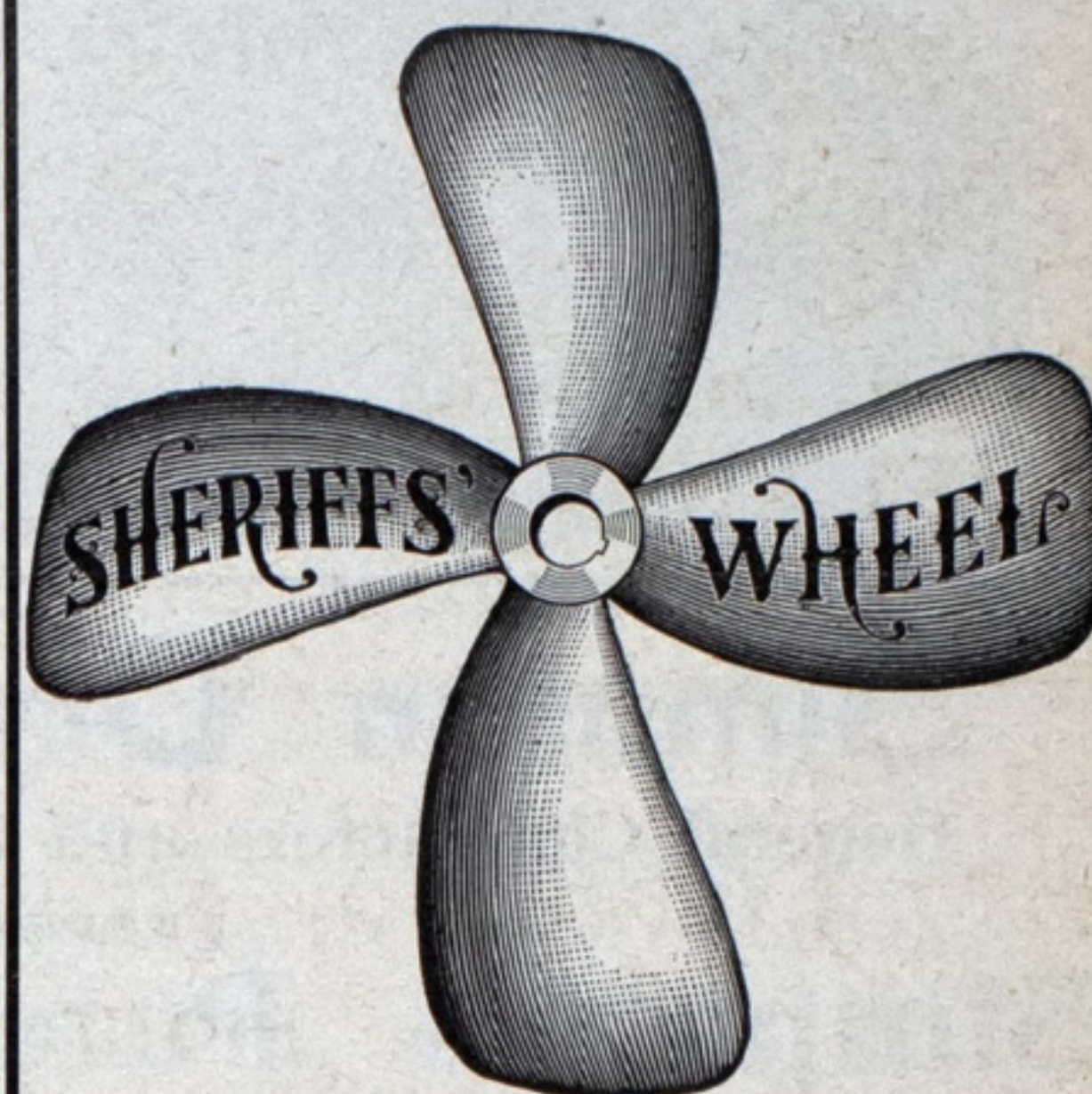
Metallic Life Rafts, Marine Drags.

Manufacturer of Woolsey's Patent Life Buoy, which is the lightest,
cheapest and most compact Life Raft known. Send for illustrated cata-
logue. Get our prices before buying elsewhere.

D. KAHNWEILER'S SONS, 437 Pearl St., New York City.

SHERIFFS MFG. CO.

ESTABLISHED 1854.



MILWAUKEE, WIS.

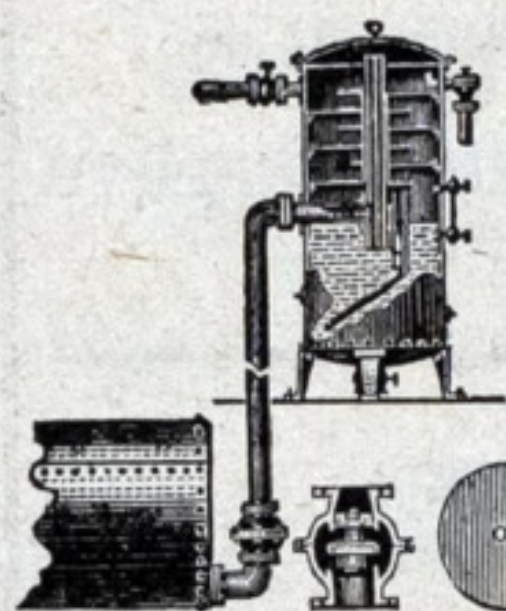
THE CHASE MACHINE COMPANY, ENGINEERS AND MACHINISTS.

MANUFACTURERS, UNDER THE CHASE PATENTS, OF
Fog Whistle Machines, Hoisting Engines, Steering Engines Automatic Towing Engines,
Power and Drop Hammers, and other Machinery. Engineers' Supplies and General Jobbing.

111 ELM STREET.

TELEPHONE, MAIN 994.

CLEVELAND, O.



Buffalo Feed Water Heater AND PURIFIER.

Made in all Sizes and to Suit all Conditions.

ROBERT LEARMONTH,

200 Bouck Ave., BUFFALO, N. Y.

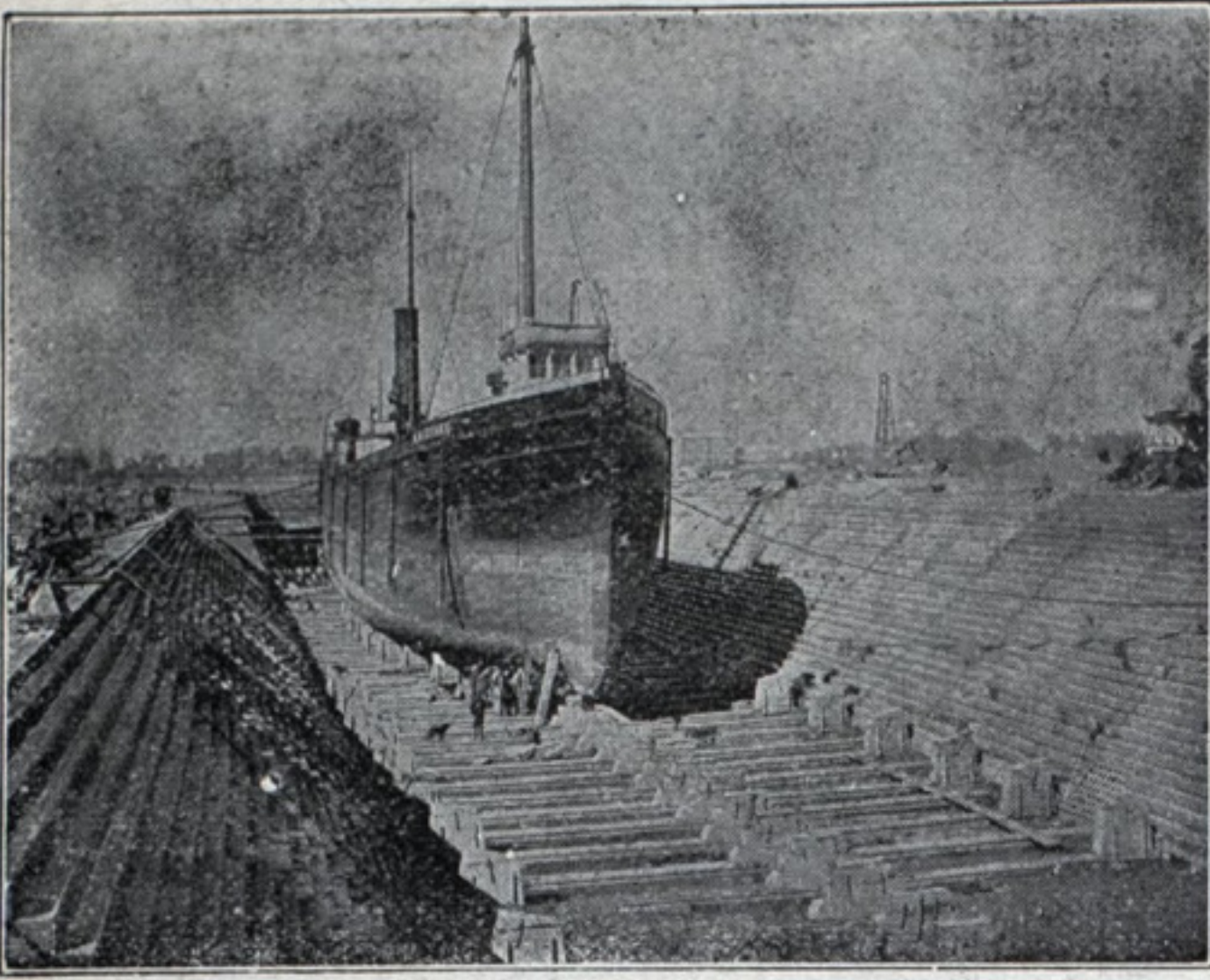
Send for Catalogue.

H. B. FOLGER, TREAS.
THOS. DONNELLY, SECY.



For Stationary, Portable,
Traction Engines, Tugboats, &c.
Thoroughly Reliable - Perfectly Automatic.
JENKINS BROS., - Selling Agents,
NEW YORK, BOSTON, PHILA., CHICAGO.





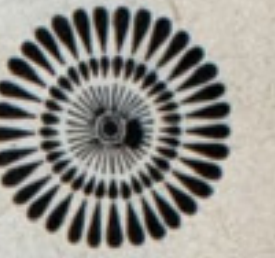
Craig Ship Building Co.

TOLEDO, OHIO.

New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

Repairs to Metal and Wooden Ships a Specialty.

Metal
and **Wooden**
Ship Builders.



Simpson Dry-Dock Co.

General Contractors and Consulting Engineers,

BUILDERS OF

Simpson's Patent Dry-Dock,

35 BROADWAY, NEW YORK.

THE BEST BOOK OF AMERICAN LAKE SHIPPING.

BEESON'S MARINE DIRECTORY FOR 1899.

A cloth bound, gilt embossed volume of 260 pages, containing alphabetically arranged lists of all American steam and sail vessels on the Northwestern lakes, giving tonnage, length, breadth and depth of each, place and year of build, and name and address of managing owner. These lists are the originals published annually and are not taken from other publications. Their correctness is all that can be possibly obtained in a technical work. Many miscellaneous features are comprehended in its contents. Among them a list of American lake ports, with description of each, numbering over two hundred.

Mailed to any address, postage prepaid, on receipt of subscription, \$5.00.

The Marine Record, THIRD FLOOR, WESTERN RESERVE BUILDING, CLEVELAND, O.

LIFE BOATS.

YAWLS.

LIFE RAFTS.

DETROIT BOAT WORKS

DETROIT, MICH.

STEEL, IRON AND WOODEN TUGS.

STEAM AND SAIL YACHTS.

ALL KINDS OF PLEASURE BOATS, FISHING AND HUNTING BOATS, SHELLS, BARGES, GIGS AND CANOES.

SAFETY HOLLOW STAYBOLTS,

Manufactured from

BEST QUALITY STEEL OR CHARCOAL IRON,
Guaranteed to meet Government Specifications and Inspection.

FALLS HOLLOW STAYBOLT CO.,

Cuyahoga Falls, O.

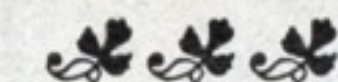
Write for Samples and Prices.

American Steel Barge Co.

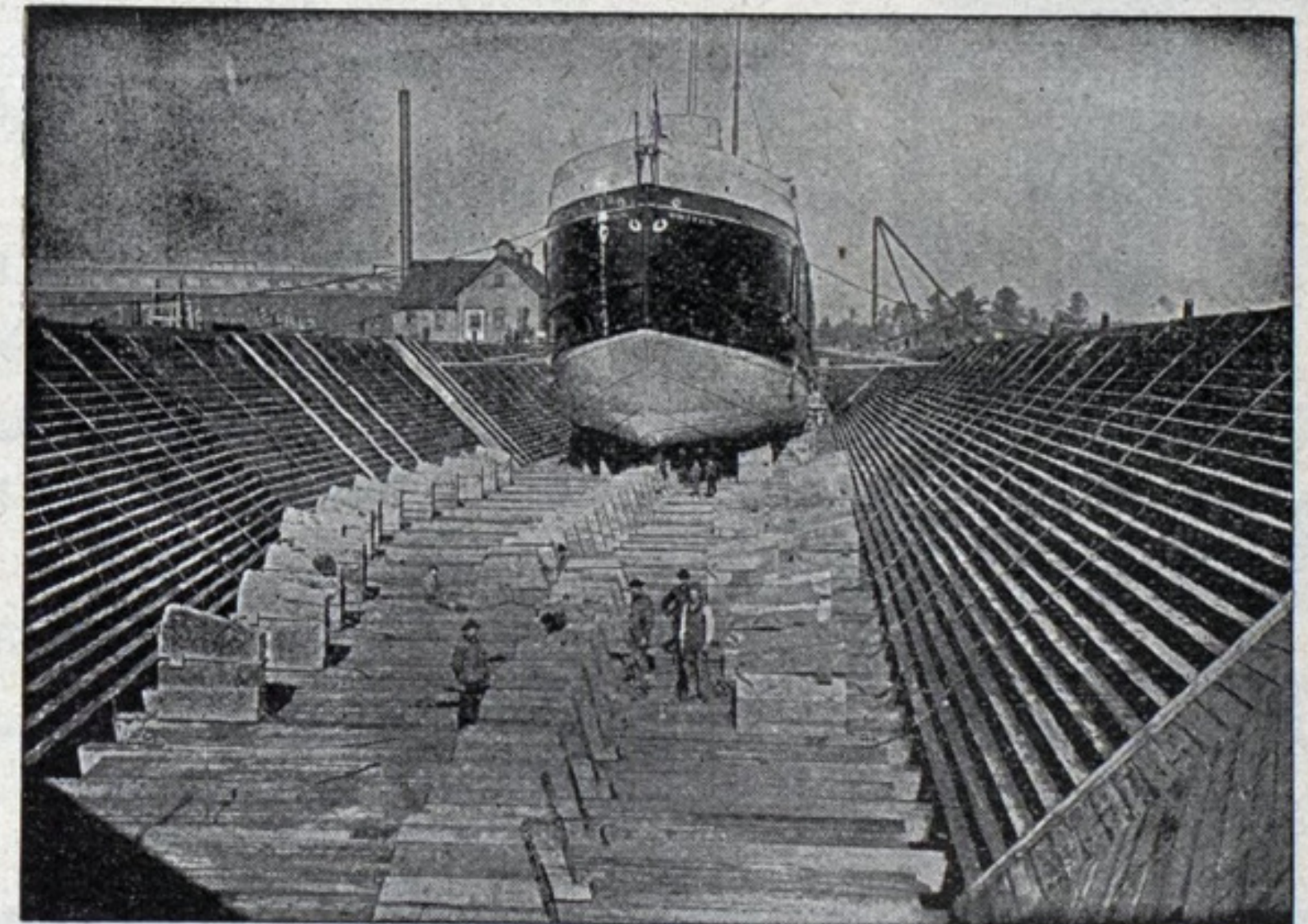
STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at
WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.



Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.



SIZE OF DOCK

Length, Extreme.....	587 feet.	Entrance, Top.....	55 feet 9 in.
Breadth, Top.....	90 " 4 in.	Entrance, Bottom.....	50 "
Breadth, Bottom.....	52 "	Depth over Sills.....	18 "

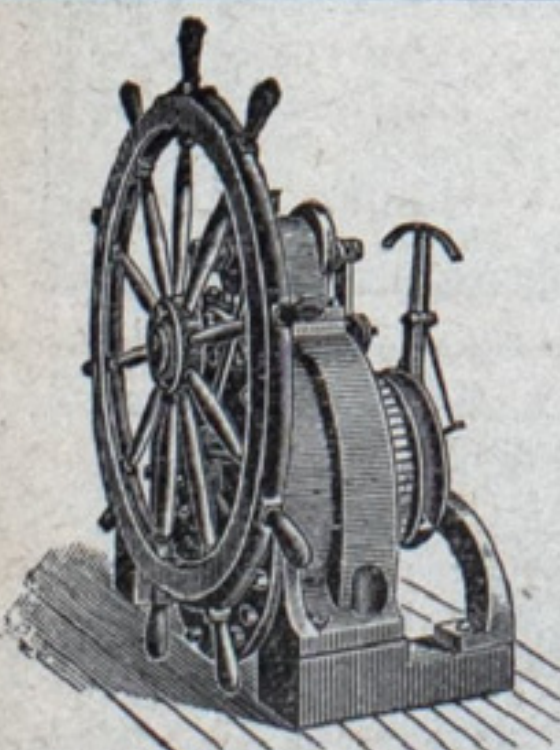
LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

SUPERIOR, WIS.

A Number of Propeller Wheels in Stock at Dry-Dock.

Queen City Patent Hydraulic Steerer.



The best and most reliable.

Generates no heat in pilot house.

Has large hand wheel.

Can be changed from power to hand steering instantly.

A favorite with pilots.

Send for References.

Queen City Engineering Co.

BUFFALO, N. Y.

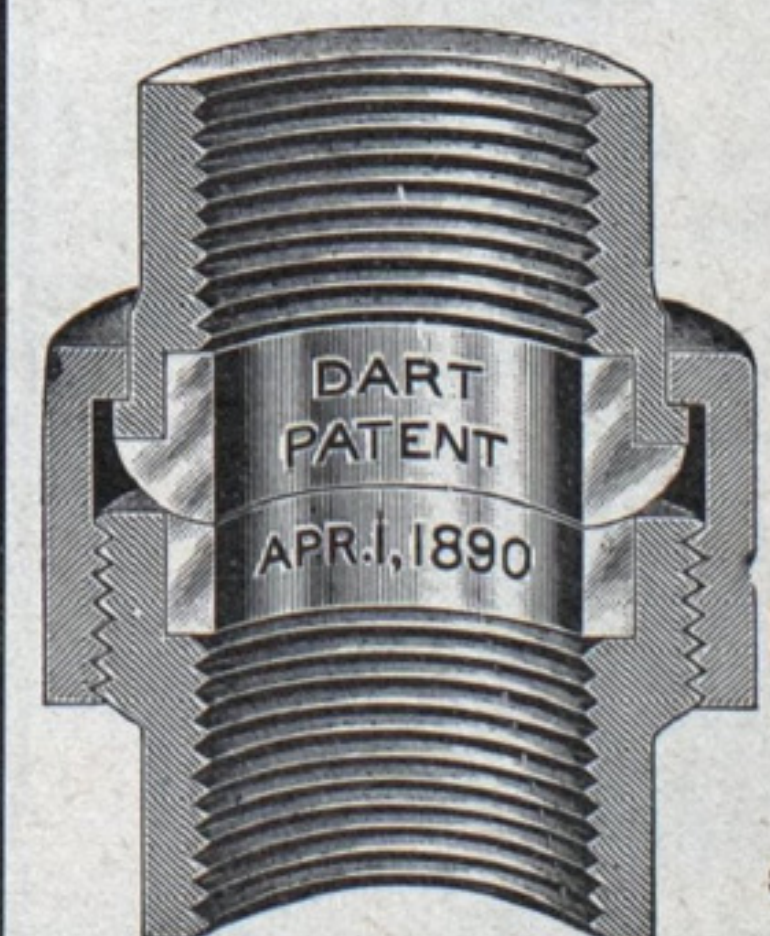
MARINE REPAIRING

AT MANITOWOC, WIS.

The Goodrich Transportation Co. are prepared to do all kinds of Repair Work to Machinery. Also Joiner Work.

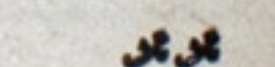
Goodrich Transportation Company's Repair Shops include complete Carpenter and Joiner Shop. New Modern Machine Shop. Blacksmith Shop, including Steam Hammer, Punch and Shears, etc., Brass Foundry.

Repair Shops are adjacent to Dry Dock and are equipped with best Modern Machinery. Portable Electric Drills, etc., complete Electric Power Plant for supplying motors on board ships, and lighting. Night work a specialty. All work in charge of experienced and skilled mechanics. Charges moderate. Twenty-one feet of water alongside of shops.



The Best Union

Made in the U. S.



Mnf'd by the

E. M. Dart Mfg. Co.

Providence, R. I.
Send for circulars and prices.

